



FLIGHT



First Aero Weekly in the World.

Founder and Editor: STANLEY SPOONER.

A Journal devoted to the Interests, Practice, and Progress of Aerial Locomotion and Transport.

OFFICIAL ORGAN OF THE ROYAL AERO CLUB OF THE UNITED KINGDOM.

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TO OUR READERS.

The Supply of "FLIGHT." Important Notice.

Order "FLIGHT" to be either delivered or reserved for you regularly.

As the demand for "FLIGHT" is so great each week, it is of the utmost importance that readers should place their orders *firmly* for copies of "FLIGHT" at the bookstalls, their newsagents, or direct from the publishers, at 44, St. Martin's Lane, W.C., if they wish to secure a copy every week and avoid disappointment. The stringent Government restrictions in regard to the supply of printing paper necessitates this precaution in order that only actual numbers required are printed, and all wastage by unsold copies may thereby be reduced to a minimum, if not eliminated.

THE PUBLISHERS.

EDITORIAL COMMENT.



WITHOUT doubt a sop will be ready to be thrown by the Government upon the re-opening of Parliament in response to public clamour for a Minister of the Air, but we are strongly inclined to the view that

for the time being, at least, the appointment of a full-blown Air Minister will not be conceded. There are, at such a period of stress as the present, many good reasons to advance for postponement. But there

Air Control. is little question that at a more auspicious time the formation of a separate Air Ministry is an

imperative and Imperial necessity. During the past few weeks there have been literally miles of printed matter published upon this very live and contentious topic. Whether there would be more than a yard or two of that type left standing for serious consideration after a careful sifting out of the reams of utter drivel, of which it mostly consists, may be doubted. And in that is contained the real kernel of the problem. So much has been foisted upon the public mind which had better have been left unsaid, that a very serious confusion has arisen, and the real point at issue has been almost entirely obscured. All sense of proportion appears to have been lost with the masses since the most recent Zeppelin raid, and most thoughts are concentrated upon the one idea, viz., that the air question is ways and means of keeping off Zeppelin airships from visiting this country with impunity. This is the rock upon which no doubt the Government will be able to let the wave of agitation for tackling the air question break itself. By judicious handling and frothy wordy promises public resentment will be assuaged, and with a thank-goodness-that's-all-right-again sort of contentment the real air problem will have been once again missed altogether. Which is nothing less than a calamity. The want of protection against the Zeppelin raiding menace is sufficiently serious and unpleasant to the peoples of this country to merit all the hard words for unpreparedness which have been launched against the responsible heads of the Government by those who happen to have been more intimately concerned than usual with the track followed by the aerial dealers out of death. There should be no insuperable difficulties, by organisation and efficient measures being promptly installed, in mitigating the greater part of the evil consequences in

the course of a few months, and in this respect we shall hope that the explanations and information vouchsafed in Parliament, upon its re-opening, will be as convincing and quieting as the public have every right to demand of its responsible officers. That conceded, the very much broader question is at once opened up of the necessary further steps to be taken leading up to the formation of such a régime—temporary and experimental in the first instance—as to ensure to this Empire the preservation of its very life in the future as a World Power. That is, the creation of a Minister of the Air who will have but one goal to attain—British Supremacy in the Air. Nothing less will save the situation, and the sooner this supreme fact is realised the less leeway will there be to make up. To let aircraft organisation drift along its course rudderless, through official supineness and ineptitude to realise the vital consequences of its neglect to this country, must bring grave complications in its wake to the entire Empire—consequences which will not only be felt from a military point of view, but which will have far-reaching influences upon our future as a ruling commercial and financial nation. When aviation became an accomplished fact the insularity of Great Britain was destroyed at one stroke for all time. This fact was pointed out in our columns years ago, at a time when ninety-nine folk out of a hundred smiled with a pitying smile upon all advocates of the great revolution which air conquest would achieve, and upon the “cranks” who persisted in risking their lives by flying the clumsy contraptions which first efforts at the command of the air brought into being. Ask those same people now for their views, and the exact opposite will be found. It is the odd one who will suggest there’s nothing in flying. The ninety-nine will joyfully agree that of course we must control freedom in the air as we have instituted complete freedom of the seas for the whole of the civilised world. We say “civilised” advisedly, as the Hun crowd *may* find their enterprise in this direction considerably curtailed in the years following the breaking out of peace, as a just consequence of their ghastly designs upon bending the entire peoples of this globe to their cursed “kultured” will and pleasure. It is to be hoped that all evasion by the Government of the main issue of the aerial problem will be strenuously fought by the Members of Parliament, so that the country is not put off with the shadow of a policy instead of the substance of real live action. Whilst admitting all the objections to the re-organisation of controls during the progress of operations on the vast scale which is associated with this war, there are ways out of difficulties which may arise, and these ways should be found. No war has ever been like unto this war, it is true, but it is equally true that no revolution in previously accepted methods of warfare has ever approached the upheaval of orthodox practice which the introduction of aviation as a practical art has brought about. Exceptional circumstances demand exceptional treatment, and there is no reason why worn-out legends of procedure should hold sway against the unquestionably sound demands which aviation has already forced into

prominence as being vital to the nation’s very existence. By all means let the Government handle the Zeppelin raid countering with a firm grip, by at least having harmony in the working between those who will have to see to the executive details. A single control would appear, in this connection, to be about the only sane solution to such a situation as has arisen, and we can hardly think that this view will be further resisted by the Government. Having provided for this incidental side of the air question, there should be persistent agitation that the larger issues of the air problem should be tackled in no uncertain way, and the foundation properly laid for the building up of that grand air fleet which day by day it is becoming more apparent is the one great object to be fought for, as still one more provision towards securing world peace for the generations to follow. This ideal can only be achieved by giving *the man*, when found, the right to see that his department of the Empire is not neglected or allowed to get into disuse at the whim or the political interest of the Chancellor of the Exchequer for the time being, of the Treasury or any other controlling factor. It is to be hoped that in naming the man for the post there will be no iota of political jobbery allowed to creep in. The man must be chosen for his powers of organisation and his knowledge of air requirements. If he be totally unassociated with everything that is political, we should fervently thank God for the accident. This is, perhaps, almost too much to hope for, but we are going to hope just the same. There is one final point in this connection we should like to give voice to, and that is that if, as a corollary to all the widespread journalistic agitation in the general Press, there is some candidate for the chief post already waiting to be hoist into the limelight when the psychological moment arrives, the same judgment in this selection will have been exercised as the guiding principle. No jobbery in any shape or form can be tolerated in an appointment so vital to the Empire as is the Minister of the Air, and it must be upon the merits, knowledge and experience of the man alone, that selection is made. We have seen in the past the most wonderful careers manufactured, worthy of the best efforts of Baron Munchausen, to fit the occasion, when it has been sought to foist some square political peg into a nice soft round political post hole, that it is with considerable trepidation that we look forward to the possible sudden introduction of some political puppet for whom a job of some sort has to be provided. So long as this aspect of the case is watched for and fought against, there will be hope for the Air Service in due course achieving its right to rank equally with the Navy and the Army in taking its share in upholding the greatness of the English-speaking peoples.

Quite an interesting problem is being raised by the Germans in regard to the status of airships when landing by mishap on neutral territory during war, which one of these days will, no doubt, receive the attention of the nations of the world and be regulated by


Zeppelin Law
“Made in
Germany.”

international agreement, to be promptly—in the case of the Germans—disavowed in the event of trouble arising in some future frightfulness which they may attempt. The right claimed is that airships should have the same rights in regard to landing on neutral soil as a damaged warship has when taking refuge in a neutral port. Dealing with the subject, the


Deutsche Tageszeitung, when discussing the loss of the "L 19," which is ascribed to Dutch gunfire, argues that the airship cannot have been lost in a fog, because in fog it would climb as high as possible, and that it must, therefore, have been cruising so low as to be hit by gunfire only because it had been injured and the pilot intended to land for the carrying out of repairs. The writer

FUTURE AIR-FIGHTERS OF THE BRITISH EMPIRE

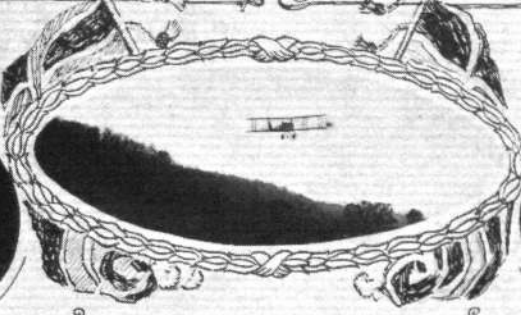
IN-TRAINING AT ITHACA, N.Y.




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OTTAWA



HELEN WILSON
MONTREAL



RONALD MACARTHUR
TORONTO

—THE AVIATOR—


By Gordon Dicks


ON I CLIMBER UP HIGH TO THE VAULT OF THE SKY
 FAR ABOVE ALL THE MUCK OF THE TRENCHES—
 FAR ABOVE THE QUICK FIRE OF THE MAIN GUN—
 FAR ABOVE ALL THE RUMOR AND THE STENCHES
 THERE'S A PUFF FROM BELOW IN THE LINE OF THE FOG
 WHERE A GUNNER IS SEEKING TO HARM ME—
 BUT I DROP AND I RISE FROM HIS BOMBS IN THE SKY
 AND I STILL AM THE EYE OF THE ARMY.


FOR IT'S MY JOB TO LEARN EVERY SALLY AND TORN
 OF THE ENEMY RIGHT WHEN THEY MAKE IT
 I'M A SENTRY WHOSE CARE IS A POST HIGH IN AIR—
 AND IT ISN'T FOR ME TO PRESUME IT
 SO I DUCK AND I SKIP AND I DODGE AND I DIP
 FROM THE AEROPLANE SHELLS THAT WOULD MIA ME
 WHILE THE GUNNER WITH ZEST DOES HIS SUNDAY-SOUP BEST
 TO PUT OUT THE EYE OF THE ARMY.


NOW THERE ISN'T MUCH CHANCE FOR THE ANCIENT ROMANCE
 IN THESE DAYS OF MECHANICAL SLAUGHTER—
 WHEN WE SAVED HUMAN RACES IN A HORRIBLE FLOOD
 ON THE FACE OF THE LAND AND THE WATER—
 BUT I AM NOT BOUND BY THE SOLDIER'S DULL ROUND
 FOR IN WAR'S CUNTY DRAMA THEY STARE ME
 AND IT'S STILL A GREAT GATE FULL OF GLORY AND FAME
 FOR THE VENTURESOME EYE OF THE ARMY.

Central Press









A batch of Canadian pupils who are being trained at the Thomas School, Ithaca, N.Y., for joining up with our Air Services to fight the Central Powers—and an air poem.

then maintains that a damaged airship has just as much right to take refuge on neutral soil as a damaged warship has a right to spend a certain time in a neutral port, and he lays it down as a "necessity" that the rights of aircraft shall now be definitely determined and that the troops defending neutral territory shall be given "precise instructions and orders."

This is no doubt a very convenient arrangement to put forward at the moment by the Hun, and were he an ordinary enemy one might be inclined to side with him as to its reasonableness. But it would hardly be politic to do so under existing conditions. *Autres temps, autres mœurs.* Unfortunately for their present contention, when it suited them, their views were exactly the opposite, and in this connection a very illuminating case is made out by Mr. J. Pawley Bate, writing from the Athenæum Club, when dealing with this new contention of the Germans. Mr. Bate writes as follows:—

"Earlier in the war a German water-biplane had, in the course of a journey, such trouble with its engine as to be no longer able to fly, though still able to propel itself through the water. It so came, *via* neutral waters, to a neutral island; the neutral Government

seized it and interned the crew. This conduct of the neutral Government was challenged as improper by one of the ablest and fairest of German writers on public law—Professor Wehberg, of Düsseldorf. He argued, *Deutsche Juristen Zeitung*, Vol. XX., 1915, p. 778, that no attention ought to have been paid to the fact that the water-plane was primarily designed for flight; it had lost the power of flight and entered neutral territory as a mere sea-vessel; being, then, a ship-of-war it ought, said he, to have been accorded in neutral waters a sojourn of 24 hours or so much longer as might be needed for repairs and then be suffered to depart as it came—by water. But he incidentally wrote—and this is what is material here—that had the craft landed on neutral territory when flying in neutral air-space, the internment of the crew would have been proper, nay, necessary, for the rules of land-war apply, by analogy, to the air-space over neutral territory. Inasmuch as the *Deutsche Juristen Zeitung* is now practically inaccessible in this country, I had better transcribe the professor's exact words; they are:—

"Hat der Wasserflugzeug den neutralen Luftraum überflogen, und ist bei dieser Gelegenheit gelandet, so ist sicher eine Internierung statthaft, ja notwendig. Denn der Luftraum oberhalb des neutralen Territoriums ist ebenso geschützt wie das neutrale Gebiet selbst, und die Regeln des Landkriegsrechts müssen entsprechende Anwendung finden."

"You will see that this is a denial to Zeppelins of the privileges which the law of sea-warfare grants to men-of-war."

Under the circumstances it will be of considerable interest to follow how the present protesters will reconcile their views to fit in with Professor Wehberg's.

THE ROLL OF HONOUR.

THE following casualty has been announced by the Admiralty:—

Under date February 8th:

Seriously Injured.

Flight-Lieutenant Charles W. Graham, R.N.

The following casualties in the Expeditionary Force have been reported from General Headquarters:—

Under date February 3rd:

Previously Officially reported Missing, now Unofficially reported Killed.

Second Lieutenant R. Barton, Royal Flying Corps.

Second Lieutenant W. A. Brooking, R.F.A. and R.F.C.

Lieutenant C. O. Hayward, Lincoln R., 7th Batt., and R.F.C.

Second Lieutenant W. Watts, General List, New Armies, and R.F.C.

Previously Officially reported Missing, now Unofficially reported Wounded and Prisoner of War.

Lieutenant C. B. Wilson, 10th (Prince of Wales's Own Royal) Hussars and R.F.C.

Previously Officially reported Missing, now Unofficially reported Prisoners of War.

Second Lieutenant F. Adams, General List and R.F.C.

Second Lieutenant J. G. McEwan, Royal Flying Corps.

New Director of French Air Services.

THE decision of the French Government not to appoint a successor to M. Besnard, has been followed by the appointment of Col. Regnier to be Director of Military Aeronautics under the Minister for War. Col. Regnier, who has been director of the Central Military Explosives School, is also an aviation expert, and was at one time Director of Material in the Flying Service.

Telephones and Air Raids.

THE following notice was issued by the Postmaster-General last week:—

"On the occasion of the recent air raid the transmission of official telephone messages of urgent importance was seriously interfered with at several places by the inconsiderate and unnecessary use of the telephone by private subscribers to call up the police and other public officials. The Postmaster-General earnestly appeals to the public to use the telephone as little as possible on such occasions, and on no account to call up the police or other public officials on unimportant or merely personal matters. If this warning is not regarded it may become necessary to curtail the facilities afforded to private persons on occasions of public emergency."

Under date February 6th:

Missing.

Second Lieutenant E. H. E. J. Alexander, King's Own (Yorks L.I.) and R.F.C.

Second Lieutenant L. J. Pearson, R.E. and R.F.C.

Undated:

Previously Officially reported Missing, now Unofficially reported Killed.

Second Lieutenant E. S. Wilkinson, London R. (T.F.), 1st Batt. (R. Fus.), and R.F.C.

Died of Wounds.

Lieutenant J. Prestwich, A.S.C., E. Lancs Div. Train (T.F.), and R.F.C.

Previously reported Missing, now reported Died of Wounds as Prisoner of War.

Lieutenant G. A. Porter, R.F.A. and R.F.C.

Previously reported Missing, now reported Killed.

Second Lieutenant M. Head, York and Lanc. Regt. and R.F.C.

Second Lieutenant G. L. Pitt, Royal Flying Corps.

It has been unofficially announced that Major and Squadron Commander L. da C. Penn-Gaskell, R.F.C., died on February 4th of injuries received while on duty.

A notice has also been issued by the War Office reminding the public that the telephone lines must be free for the receipt of official reports, the issue of orders, and the necessary control of defensive arrangements, and that private inquiries greatly impede the collection of information.

Air Raid Insurances.

AS showing the boom in the insurance business which has followed the recent raid, it may be recorded that both the Liverpool and Birmingham corporations have decided to insure their properties against air raid risks. It is stated that the insurances in the former case will amount to about three million pounds and in the case of "Brum" to about 3½ millions.

A Long Reconnaissance in Egypt.

A SPLENDID piece of flying work in Egypt was recorded by the *Times* on February 14th, as follows:—

"An officer in the Flying Corps in Egypt has carried out an aerial reconnaissance from Daba, the railhead of the Mariut Railway, to El Gara (about 60 miles north-east of the Siwa Oasis) and back, a distance of 400 miles. The airman started early in the morning, reached El Gara at midday, and was back at 4 p.m."

The British Air Service

"PER ARDUA AD ASTRA"

UNDER this heading are published each week the official announcements of appointments and promotions affecting the Royal Naval Air Service and the Royal Flying Corps (Military Wing) and Central Flying School. These notices are not duplicated. By way of instance, when an appointment to the Royal Naval Air Service is announced by the Admiralty it is published forthwith, but subsequently, when it appears in the LONDON GAZETTE, it is not repeated in this column.

Royal Naval Air Service.

THE following appeared among the Admiralty announcements of the 8th inst. :—

The following have been entered as Probationary Flight Sub-Lieutenants, for temporary service, with seniority of Jan. 10th, and all appointed to "President," additional, for R.N.A.S.: R. A. Campbell, H. McL. Hill, and C. E. Pattison.

J. A. Hatton entered as Temporary Sub-Lieutenant (R.N.V.R.), with seniority of Feb. 7th, and appointed to "President," additional, for R.N.A.S.

The following appeared among the Admiralty announcements of the 10th inst. :—

Temporary Sub-Lieut. (R.N.V.R.) S. Nixon entered as Probationary Flight Sub-Lieutenant (temporary), with seniority of Feb. 8th, and appointed to "President," additional, for R.N.A.S.

N. E. Woods entered as Probationary Flight Sub-Lieutenant (temporary), with seniority of Jan. 25th, and appointed to "President," additional, for R.N.A.S.

The following appeared among the Admiralty announcements of the 11th inst. :—

A. L. Howarth and A. B. Spencer granted temporary commissions as Sub-Lieutenants (R.N.V.R.), and appointed to "President," additional, for R.N.A.S. To date Feb. 17th and Jan. 24th respectively.

G. M. T. Rowse promoted to the rank of Probationary Flight Sub-Lieutenant, for temporary service, and appointed to "President," additional, for R.N.A.S. To date Feb. 10th.

The following appeared among the Admiralty announcements of the 14th inst. :—

Squadron-Commander H. L. Woodcock, appointed Acting Wing-Commander (temporary). Feb. 12th.

Flight-Commander E. R. C. Nanson, appointed Acting Squadron-Commander (temporary). Feb. 6th.

Assistant Paymaster (R.N.), D. R. Thurstan, to "President," additional, for R.N.A.S., as Acting Flight-Lieutenant. Feb. 12th.

The undermentioned have been entered as Probationary Flight Sub-Lieutenants (temporary), and appointed to "President," additional, for R.N.A.S., with seniority as follows: E. B. Waller, Nov. 8th, 1915; W. E. Orchard, J. L. Gordon, and G. R. Hodgson, all Jan. 18th; R. W. Winter and N. M. Macgregor, both Feb. 12th; H. C. Randall-Stevens and C. S. Hay, both Feb. 28th.

The following have been granted temporary commissions as Sub-Lieutenants (R.N.V.R.): H. C. Jevons (Probationary Flight Sub-Lieutenant, (R.N.), with seniority of Feb. 11th; W. MacC. Sharpe (Petty Officer, Mechanic), with seniority of Feb. 12th.

Royal Flying Corps (Military Wing).

THE following appeared in the *London Gazette* of the 8th inst. :—

Wing-Commander.—Capt. (Temporary Major) Edgar R. Ludlow-Hewitt, Royal Irish Rifles, from a Squadron-Commander, and to be Temporary Lieutenant-Colonel whilst so employed. Feb. 1st.

Squadron-Commanders.—Capt. Hubert D. Harvey-Kelly, D.S.O., Royal Irish Regt., from a Flight-Commander, and to be Temporary Major whilst so employed; Jan. 30th. Capt. Gerald C. R. Mumby, Special Reserve, from an Equipment Officer, and to be Temporary Major whilst so employed. Feb. 2nd.

Flight-Commander.—Lieut. James P. C. Cooper, Special Reserve, from a Flying Officer, and to be Temporary Captain whilst so employed. Jan. 27th.

Flying Officers.—Second Lieut. (Temporary Lieut.) W. B. Ellis, Army Service Corps (T.F.); Jan. 8th. Temporary Second Lieut. E. T. Farrow, The Duke of Cambridge's Own (Middlesex Regt.), and to be transferred to the General List; Jan. 18th. Temporary Second Lieut. J. Callaghan, the Royal Munster Fusiliers, and to be transferred to the General List; Jan. 25th. Jan. 26th: Second Lieut. Paul R. Tankerville-Chamberlayne, 11th (Prince Albert's Own) Hussars, Special Reserve; Second Lieut. Alfred W. Briggs, Special Reserve.

Balloon Officer.—Capt. Latham V. S. Blacker, Queen Victoria's Own Corps of Guides (Frontier Force) (Lumsden's), Indian Army. Dec. 3rd.

Memorandum.—To be Temporary Lieutenant for employment under the Ministry of Munitions, Feb. 9th, 1916: Air Mechanic E. Tribe, from R.N.A.S.

Supplementary to Regular Corps.—Second Lieut. (on probation) John T. Spittle is confirmed in his rank. Second Lieutenants to be Lieutenants; Jan. 1st, 1916: Hugh V. de Crespigny, Gerald S. Peacock, Lewis W. F. Turner, Basil C. McEwen, Archibald M. Low, George E. W. Humphery, Herbert A. Cooper, Charles W. Snook, Ernest W. Barrett, Christopher W. Willcox, E. Powell, Wilfred H. Furlonger, Idwal O. Griffith, Martin A. Shepstone, Clement Hirtzel, and John T. Spittle.

Second Lieut. (on probation) Cyril G. Jones is confirmed in his rank.

Second Lieut. Norman S. Roupell is placed on the half-pay list, on account of ill-health. Feb. 28th, 1915.

The following appeared in supplement to the *London Gazette* published on the 9th inst. :—

Balloon Officer.—Second Lieut. Cyril G. Jones, Special Reserve. Jan. 28th, 1916.

The following appeared in a supplement to the *London Gazette* issued on the 10th inst. :—

Wing-Commanders.—From Squadron-Commanders, and to be Temporary Lieutenant-Colonels whilst so employed; Feb. 1st, 1916: Capt. (Temporary Major) Archibald C. H. MacLean, Royal Scots (Lothian Regt.); Major Hugh C. T. Dowding, R.A.; Capt. (Temporary Major) Cyril L. N. Newall, 2nd King Edward's Own Gurkha Rifles (Sirmoor Rifles), Indian Army; Capt. (Temporary Major) Philip L. W. Herbert, Sherwood Foresters (Nottinghamshire and Derbyshire Regt.); Brevet Major Donald S. Lewis, D.S.O., R.E.

Assistant Equipment Officers.—Second Lieut. Henry J. Poole, Special Reserve; Jan. 1st, 1916. Second Lieut. Ernest W. Bower, Special Reserve; Jan. 7th, 1916.

Memorandum.—John S. Nicholson to be Temporary Honorary Captain whilst employed in the Directorate of Military Aeronautics. Oct. 18th, 1915.

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in their rank: Frank G. Pinder, Gerard A. Crane, John Elgood, John Brown, Henry R. Spence, Samuel Turner and Leonard J. Stuart.

Frank Murphy to be Second Lieutenant (on probation). Feb. 2nd, 1916.

The following appeared in the *London Gazette* of the 11th inst. :—*Flying Officers.*—Jan. 29th: Second Lieut. A. Ball, Sherwood Foresters (T.F.); Second Lieut. A. T. Harris, S.R.

Assistant Equipment Officers.—Second Lieuts. S.R.: J. Elgood, Dec. 1st; J. Brown, Dec. 21st; H. R. Spence, Dec. 23rd; S. Turner, Dec. 27th; L. J. Stuart. Dec. 29th. Jan. 29th: Temporary Lieut. R. C. Lane, Middx., and transferred to General List; Temporary Second Lieut. H. N. Nowell, attached R.H. Guards, and transferred to General List; Second Lieut. D. G. Prentice, Worcs., S.R., and seconded; Second Lieut. G. A. Crane, S.R.; Second Lieut. H. Jameson, S.R.; Temporary Second Lieut. C. S. Kent, General List.

Memorandum.—To be Temporary Second Lieutenant: L.-Cpl. T. G. Gordon, Lord Strathcona's H. (R. Cans.), for duty with Royal Flying Corps. Feb. 3rd.

Supplementary to Regular Corps.—Second-Lieut. (on probation) confirmed in rank: H. Jameson and A. T. Harris.

The following appeared in a supplement to the *London Gazette* issued on the 12th inst. :—

Flight Commanders (from Flying Officers, and to be Temporary Captains whilst so employed).—Temporary Lieut. H. M. Sison, A.S.C., and Second Lieut. Henry E. Van Goethem, Special Reserve; Jan. 30th. Capt. R. G. Blomfield, Surrey (Queen Mary's Regt.) Yeomanry (T.F.); Feb. 3rd.

Flying Officers.—Lieut. G. H. Morton, 48th Canadian Infantry Batt.; Temporary Second Lieut. T. H. McDowell, R.A., and to be transferred to the General List; Temporary Second Lieut. A. D. Pearce, Royal Warwickshire Regt., and to be transferred to the General List; and Second Lieut. Frank G. Pinder, Special Reserve; Jan. 27th. Temporary Second Lieut. H. A. Johnston, Duke of Cambridge's Own (Middlesex Regt.), and to be transferred to the General List; Second Lieut. Reginald J. Lowcock, Sherwood Foresters (Notts and Derby Regt.); and Second Lieut. Charles B. Bond, Duke of Cambridge's Own (Middlesex Regt.), and to be seconded; Jan. 28th.

The following appeared in a supplement to the *London Gazette* issued on the 14th inst. :—

Flight-Commanders from Flying Officers.—Jan. 28th, 1916: Major S. Smith, R.F.A. (T.F.), Capt. Thomas A. E. Cairnes, 7th (Princess Royal's) Dragoon Guards.

Flight-Commanders.—Capt. Stamford C. Raffles, 3rd Batt., Royal Welsh Fusiliers, Special Reserve, from a Balloon Officer; Jan. 29th, 1916. Second Lieut. Vyvyan A. H. Robeson, Special Reserve, from a Flying Officer, and to be Temporary Captain whilst so employed; Feb. 1st, 1916.

Flying Officers.—Feb. 1st, 1916: Second Lieut. (Temporary Lieut.) N. P. Manfield, Northamptonshire Regt. (T.F.); Temporary Second Lieut. E. S. Moulton-Barrett, Seaforth Highlanders (Ross-shire Buffs, Duke of Albany's), and to be transferred to the General List; Temporary Second Lieut. S. H. Ellis, Northumberland Fusiliers, and to be transferred to the General List; Temporary Second Lieut. C. H. Collins, Royal Warwickshire Regt., and to be transferred to the General List; Second Lieut. Thomas R. Irons, York and Lancaster Regt., Special Reserve, and to be seconded; Second Lieut. John J. Lynch, Special Reserve; Second Lieut. Laurence Minôt, Special Reserve; Second Lieut. Arthur H. O'H. Wood, Special Reserve; Second Lieut. James C. Cunningham, Special Reserve.

Balloon Officers.—Jan. 20th, 1916: Capt. Francis M. Roxby,

Prince of Wales's (North Staffordshire Regt.), Special Reserve, and to be seconded; Second Lieut. J. S. D. Berrington, Lancashire Fusiliers (T.F.).

Assistant Equipment Officers.—Second Lieut. Oswald V. Thomas, Special Reserve; Jan. 21st, 1916. Second Lieut. John G. Hutt, Special Reserve; Jan. 28th, 1916. Second Lieut. Eric W. Vaughan, Special Reserve; Feb. 3rd, 1916.

Supplementary to Regular Corps.—Second Lieutenants (on probation) confirmed in their rank: James C. Cunningham, John G. Hutt, Oswald V. Thomas, and Eric W. Vaughan.

Central Flying School.

THE following appeared in a supplement to the *London Gazette* issued on the 9th inst. :—

Commandant.—Temporary appointment made: Brevet Major (Temporary Lieut.-Col.) Charles J. Burke, D.S.O., Royal Irish Regt., a Wing-Commander, and to retain his temp. rank whilst so employed, vice-Capt. (Temporary Lieut.-Col.) D. le G. Pitcher, 39th King George's Own Central India Horse, Indian Army. Feb. 1st, 1916.

The following appeared in the *London Gazette* of the 11th inst. :—

Instructor.—Capt. J. H. A. Landon, Essex (T.F.), a Flight-Commander Military Wing, vice Capt. J. L. Jackson, Conn. Rang., S.R. Jan. 23rd.

THE "X" AIRCRAFT RAIDS.

THE following announcements have been officially issued :—

"X 17" Raid.

The following "wireless" news was sent out from Berlin on February 10th :—

"To the German Embassy, Washington.

"The *Kölnische Zeitung* reports that during the last Zeppelin raid on England, besides the cruiser 'Caroline,' the two destroyers, 'Eden' and 'Nich,' were also sunk in the Humber."

It will be recalled that an Admiralty announcement issued on February 7th stated that "neither H.M. ship 'Caroline' nor any other of His Majesty's ships, nor any merchant ship, large or small, was struck by a bomb, in the Humber, nor in any other port."

"X 18" Raid.

"War Office, February 9th, 7.5 p.m.

"At 3.30 p.m. to-day two German seaplanes were reported approaching the coast of Kent.

"A few minutes later these two seaplanes dropped three bombs in a field on the outskirts of Ramsgate and four near a school at Broadstairs. Three of the latter exploded.

"No casualties are reported; no damage was caused other than to glass."

"11.50 p.m.

"It has now been ascertained that as the result of the hostile seaplane raid this afternoon the following were injured :—

"Two women, one child.

"A number of naval and military aeroplanes and seaplanes ascended to attack the raiders, who, however, retreated at once, and no engagement is reported."

Kaiser Decorates Raiders.

INFORMATION was received in Copenhagen from Berlin on February 10th, that in recognition of his "heroic act" the Order Pour le Mérite has been conferred by the Kaiser on the commander of the Zeppelin squadron which dropped bombs on England on January 31st. The other officers and the men, it is said, have been awarded the Iron Cross of the first and second class.

Germany and Zeppelin Raids.

THAT there may be misgivings in Germany as to the policy of Zeppelin raids is indicated by the following message from the *Morning Post's* correspondent at Stockholm :—

"A gentleman who arrived this morning from Berlin informed me that although there was much rejoicing there over the last air raids on France and England, he noticed a distinct under-tone of disappointment at the fact that no military success was achieved. He had spoken, he said, with several sensible Germans, who made gestures conveying to him the idea that this horrible and purposeless slaughter had got on their nerves. He inferred that there were fears that retaliation would come sooner or later."

"L 20" Reported Adrift.

THE disastrous end of the German airships, "L 3" and "L 4," in February of last year, is vividly recalled by the reports received in Copenhagen from various sources on Monday that the "L 20" had been damaged and was drifting in the North Sea near the

"Press Bureau, Feb. 10th.

"The following further information with regard to the air raid on the 9th inst. has been received :—

"The first raider appeared to have selected as his target a tramway car full of women and children, and the first bomb fell on the road close behind the car and exploded without any damage. The driver pulled up immediately, and the passengers alighted. There was no panic, although the raider could be plainly seen circling round at a great height, and three more bombs were dropped in an adjoining field. The second raider made his attack on a large girls' school, and one bomb fell through the roof and exploded in an upper storey, doing some material damage. Portions of the ceiling fell into the room below, where a class of small children was being held, and one little girl was slightly cut on the foot and a maid slightly injured. Three other bombs fell in the school grounds, where two of them exploded without damage. The third failed to explode. Two other bombs were dropped on outlying parts of the town, causing slight material damage and a woman some cuts on the cheek.

"Within a few minutes of the sighting of the hostile aircraft, naval and military aeroplanes went up in pursuit, but were unable to overtake them owing to the precipitate nature of their flight."

German Version.

"Berlin, Feb. 11th.

"Main Headquarters report as follows :—

"During the afternoon of the 9th instant some of our naval aeroplanes dropped a number of bombs on the port and manufacturing establishments, as well as the barracks, at Ramsgate, to the south of the mouth of the Thames."

German coast. According to the *Ribe Stiftstidende*, the "L 20" was observed on Friday morning over the island of Manve (? Manoe) flying unusually low and slowly, her engines evidently being damaged. The airship was steering southward, but a strong easterly breeze drove her more and more westward until she disappeared in the mist. The *Daily Mail* Copenhagen correspondent reported that the "L 20" was seen on Sunday off Blaavand, near Esbjerg, being driven back over the North Sea by a strong wind.

Another Lost Zeppelin.

ANOTHER unconfirmed report of a Zeppelin wreck was published last week, the following details being given in the *Echo Belge* :—

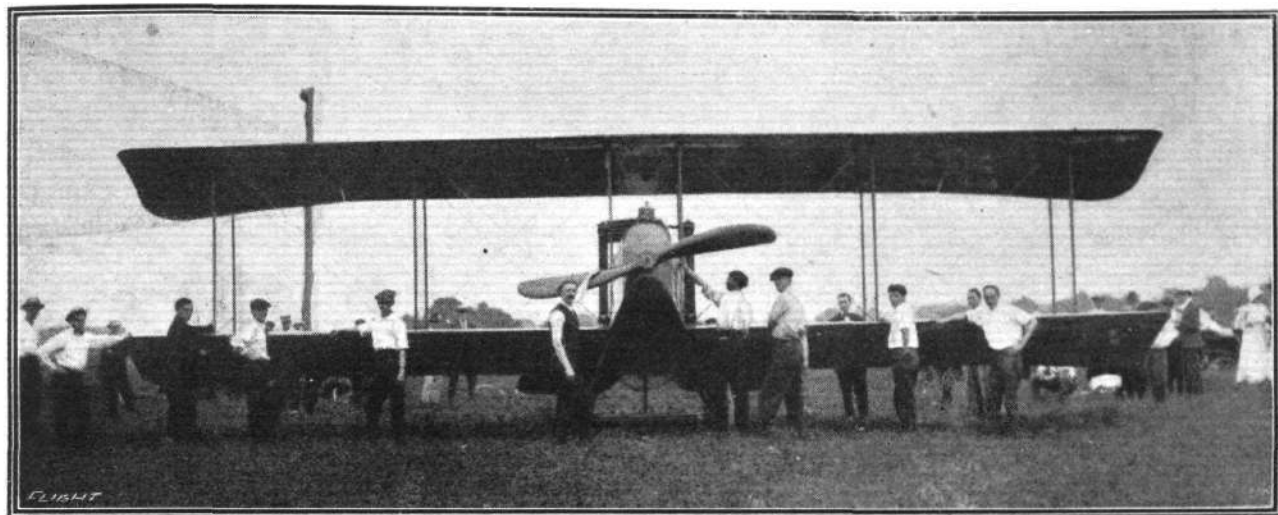
"During the night of January 29th-30th a Zeppelin airship, which is supposed to have been the same which effected a raid over Paris, came down at Ligne, one mile from Ath, in the Hainaut province. The airship at first came amongst trees standing on both sides of the station road, and subsequently crashed against a row of houses, of which two were completely demolished. The Zeppelin was entirely destroyed, and all the occupants appear to have been killed. The German authorities maintained great secrecy about the occurrence, this explaining the delay before details became known."

According to a story from the Hague, a goods train had been seen on its way to Cologne, bearing remnants of a Zeppelin, believed to have been wrecked in France.

THE SLOANE "H-1" TRACTOR BIPLANE.

THIS aeroplane has been designed and built in America to meet the requirements arising from the present war, for a reliable and speedy tractor capable of carrying a moderate load for a flight of from 4 to 6 hours. In every respect this machine is a great advance over anything previously built by the Sloane Manufacturing Co.,

The main planes are of standard construction, the ribs being built up of basswood, and then slipped over the main beams. The latter are of Alaskan spruce, measuring 2 ins. by 3 ins. and 2 ins. by $2\frac{1}{2}$ ins. front and rear respectively. The trailing edge is steel. The whole is internally braced with cable and wire, and three



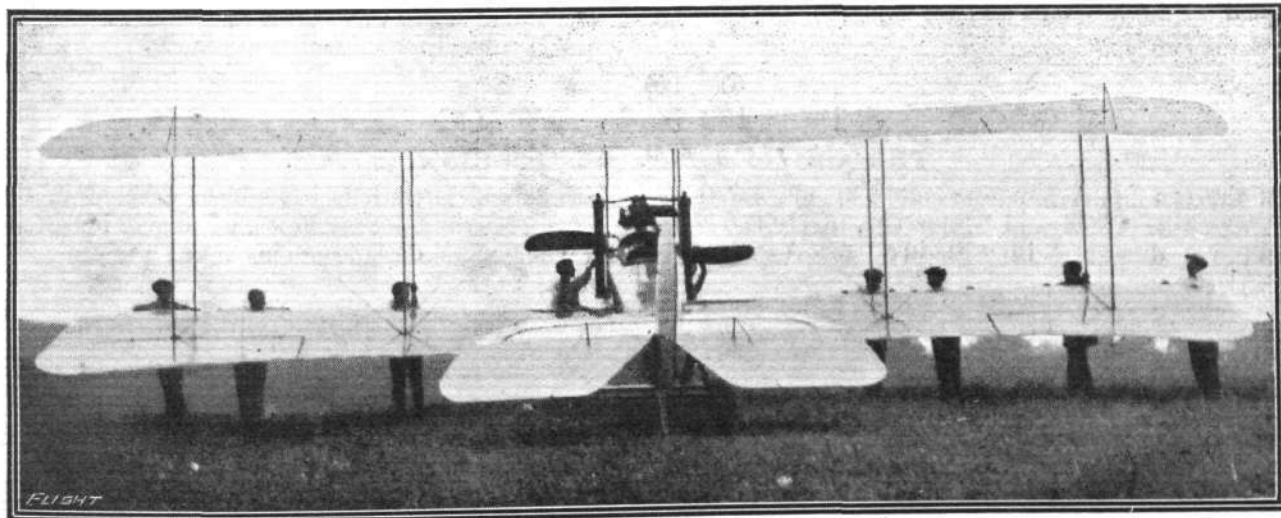
The Sloane tractor biplane from the front.

of North Avenue, Plainfield, N.J. Great care has been exercised to obtain the most advantageous combination of speed, safety, climbing and weight-carrying possible in a machine of this class, and the designers have somewhat exceeded the usual requirements for strength, so that a factor of safety in excess of seven has been obtained.

Actual tests have shown the flying qualities of this machine to be entirely satisfactory. It is stable and easy to control even in very heavy weather.

steel drift braces are located between the beams at strut points. Beams are reinforced so that no wing clip bolts pass through them.

Upper and lower planes are separated by four pairs of streamlined spruce struts, two pairs on either side of the body, and by two pairs of short struts from the body in the centre. The upper planes are attached to a small inner pannel, the same width as the body, and the lower planes are attached direct to the latter. Ailerons are hinged to the extremities of the rear spars of both top and bottom



The Sloane tractor biplane as seen from behind.

The machine is equipped with a six cylinder 125 h.p. Hall-Scott motor, 5 ins. bore and 7 ins. stroke, which has shown itself to be the best motor available for the work required. The wing curve employed is very satisfactory, and has been developed by actual experience and wind tunnel experiments.

The wings of this machine are backswept 10° , and the upper plane is staggered forward 10° , whilst both upper and lower planes are set at a slight dihedral angle.

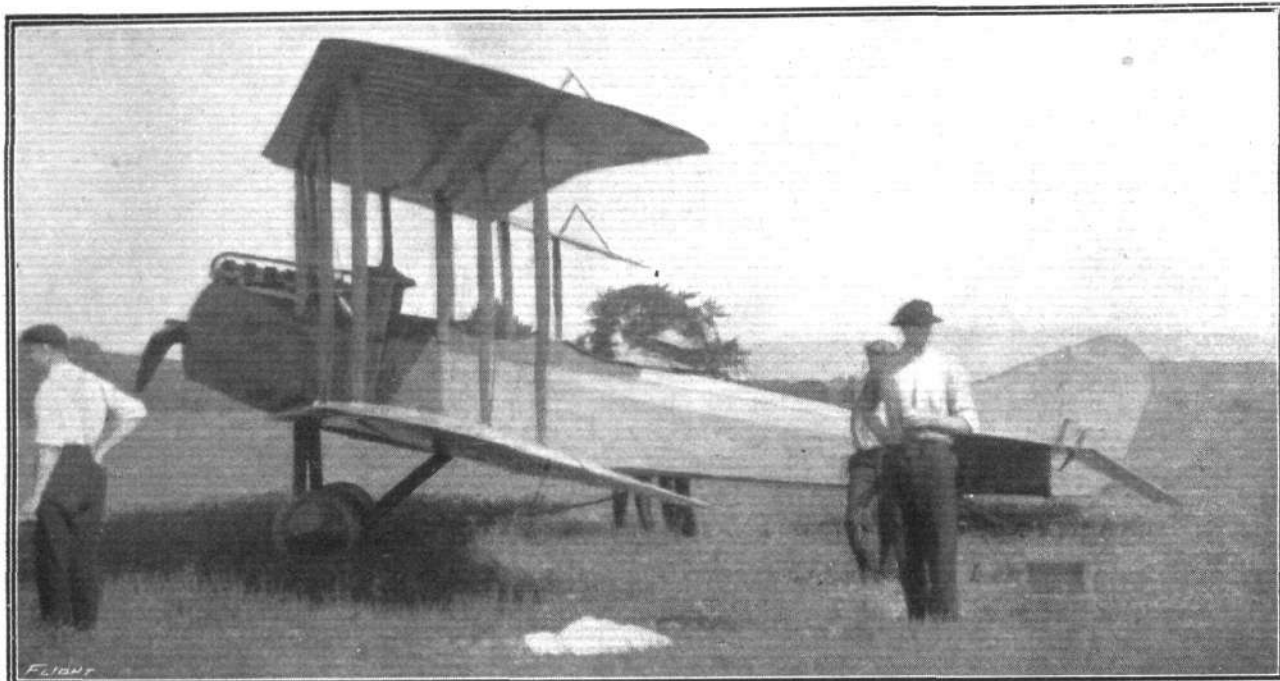
planes. The tail planes consist of a horizontal stabilising plane, to the trailing edge of which are hinged the elevators. Between the latter is the rudder, in front of which is a vertical triangular fin.

The fuselage is rectangular in section, of streamline form, tapering to a vertical knife edge at the rudder post. The longitudinals are ash and spruce, tapering from $1\frac{1}{2}$ in. square to 1 in. square, and the uprights of the same material. Back of the pilot's seat solid wire is

used for cross bracing and forward of its cable. Specially designed clamps are used to hold the struts without piercing the *longerons*. The pilot's and passenger's seats are arranged in tandem, the pilot occupying the rear-most.

The whole nose of the *fuselage* is enclosed by aluminium, and the cockpits are provided with aluminium covers to

The landing chassis is of the two-wheel type. The tubular streamline axle is mounted on two extra heavy laminated U's. Two steel tension and compression members maintain the spacing of these two U's. Four cables stiffen the landing gear so that side strains will not affect it. The usual rubber cord shock absorbers are used in the axle. The axle may be removed



A side view of the Sloane tractor biplane.

protect the passengers. The rest of the *fuselage* is covered with linen doped and varnished.

The engine is mounted on two ash beams, 2 ins. by 5 ins., which are hung on two hot drawn steel plates, which reinforce the *fuselage* as well.

The radiators are of the vertical tube type specially designed for the machine, and are mounted one on each side of the *fuselage*.

without disturbing the rubbers. The tyres are 26 ins. by 4 ins. double tube.

The principal dimensions of the model H-1 Sloane tractor are as follows: Span, 38 ft.; chord, 6 ft. 6 ins.; gap, 6 ft. 3 ins.; overall length, 34 ft.; supporting surface, 510 sq. ft.; speed, fast, 85 m.p.h.; speed, slow, 47 m.p.h.; climb (3,000 ft.), 7½ minutes; load, 1,900 lbs.; weight packed for shipment, 4,300 lbs. [76 76]

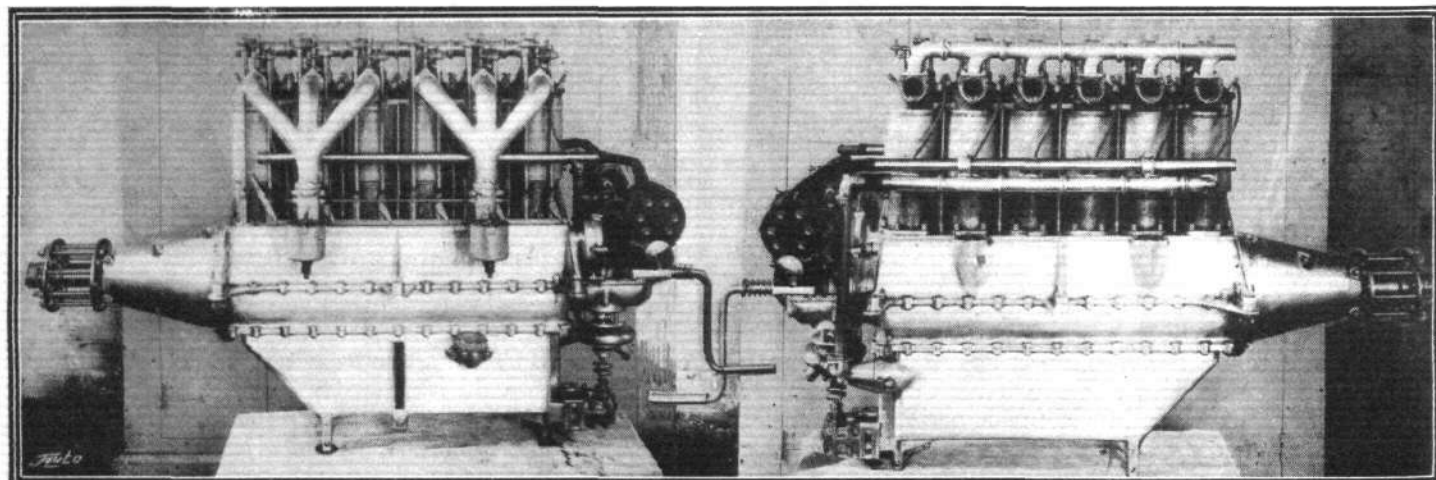
SOME AMERICAN AERO ENGINES.

THE NEW 100 H.P. AEROMARINE MOTOR.

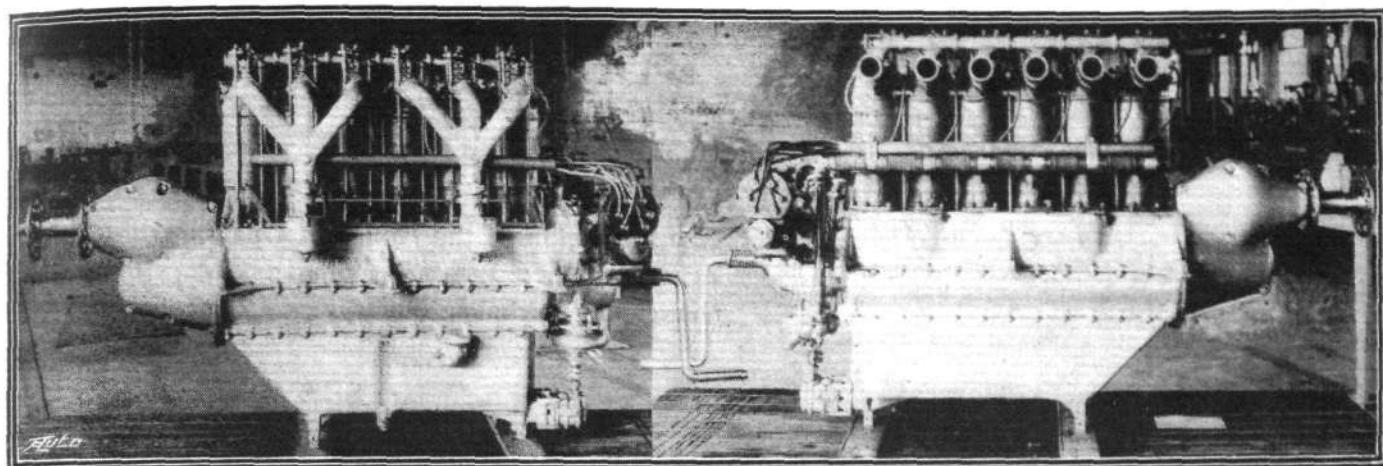
SINCE the 100 h.p. Aeromarine motor, manufactured by the Aeromarine Plane and Motor Co., of Nutley, N.J., U.S.A., was described in "FLIGHT" for August 13th

last, several alterations have been effected in the latest model, of which we are now able to give illustrations.

The general design remains much the same as before,



Two views of the new 100 h.p. Aeromarine engine fitted for direct propeller drive.



Two views of the new 100 h.p. Aeromarine engine showing the propeller reduction gear fitted in position.

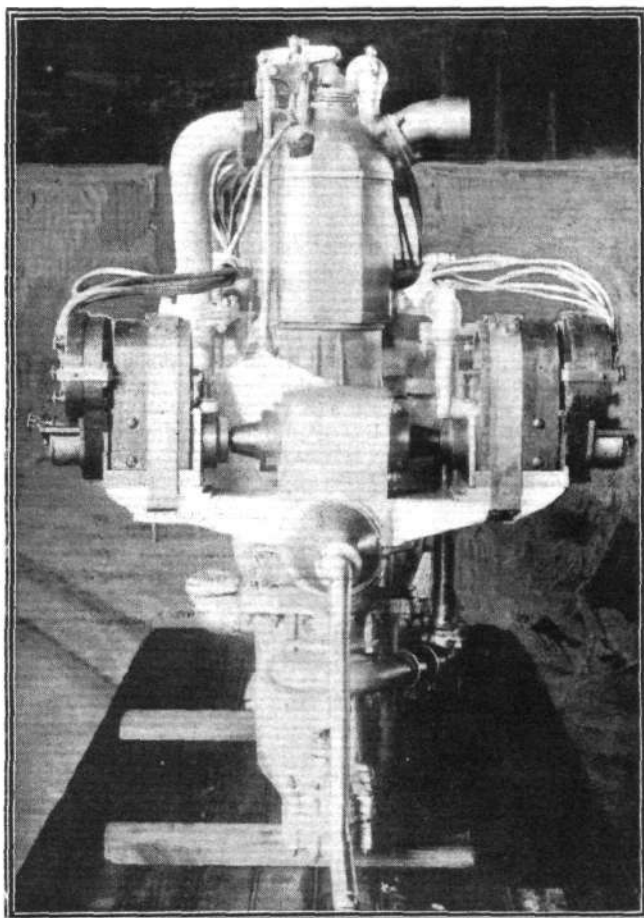
i.e., six cylinders arranged vertically, 4 ins. bore and 5 ins. stroke, with concentric valves located in the heads, and with large copper water jackets electrically deposited. The cylinders are now fitted with domed water-jacketed heads instead of the flat type previously employed. The cylinder wall jackets are deposited from the base of the dome to within 3 ins. of the cylinder base, giving a large cooling surface. The sparking plugs, of which there are two to each cylinder, are now located in the head, the current being supplied by two magnetos arranged in tandem, one on each side of the engine, and driven off the end of the crankshaft.

As before, the cylinders are cast separately from vanadium iron, and great care has been exercised in the development of the flanged base of the cylinder in order to retain the initial strength necessary to withstand the working stresses, at the same time permitting of uniform expansion both of the base of the walls and the skirt of the piston.

Perhaps the most interesting feature of this engine is to be found in the design of the propeller end of the crankcase. This is such that the same engine may be used either with the propeller mounted directly on the crankshaft or geared down.

The gear drive consists of a pair of gears of 1 to 1.75 ratio, the small gear mounted on the end of the crankshaft and carried by a ball bearing on both sides of its hub, the ball bearings in their turn being carried by the aluminium gear housing. This housing is bolted to the motor on a dowel flange face, securing at all times an absolute alignment. In the upper compartment of this housing is fitted the propeller shaft mounted on large annular ball bearings. This shaft is also provided with thrust bearings, two sets mounted in both directions, enabling the motor to operate as tractor or pusher without change; when it is desired to use the motor with the propeller coupled direct, it is only necessary to dismount the gear housing from the crankcase and mount the extension on to the crankshaft in the same position, and by the same means as were used to retain the gear drive pinion, the straight drive housing is then mounted on to the dowel flange face together with its annular and thrust bearings as before mentioned. At the other

extremity of the crankshaft further additional ball bearings are employed to carry the load of driving the camshaft, water and duplex oil pumps and magnetos. All bearings



End view of the new 100 h.p. Aeromarine engine.

throughout the motor, other than ball, are die cast Fabrig metal and interchangeable.

As regards other details, lubrication, &c., these do not differ materially from those obtaining in the previous model.

Aeroplanes from Mauritius.

WITHIN three weeks a sum of over £5,000 is reported to have been raised by public subscription with the object of presenting aeroplanes to the Army. As a start the sum of £4,500 has been paid over by the Crown Agents for the Colonies to purchase two gun-carrying machines.

German Honour for Fokker.

It is not surprising to hear from Amsterdam, that Herr Fokker,

the designer and builder of the speedy much-boomed German monoplane of that name, was decorated at the Schwerin aerodrome on February 7th with the Mecklenburg Cross for Merit in War by the reigning Grand Duke.

Germany Advertising for Aeroplane Workers.

THE way in which Germany is endeavouring to extend her aviation industry is illustrated by an advertisement in the Berlin *Vorwärts* for 200 neutral workers for an aeroplane factory.

The Royal Aero Club of the United Kingdom

OFFICIAL NOTICES TO MEMBERS

Vacancy on the Committee.

LIEUT.-COL. W. D. BEATTY, R.E., has been appointed to fill the vacancy on the Committee caused by the death of Lieut.-Col. J. D. B. Fulton, C.B., R.F.A.

Lieut.-Col. Beatty will retire at the next Annual General Meeting, but will be eligible for re-election.

Annual General Meeting.

The Annual General Meeting of the Members of the Royal Aero Club of the United Kingdom will be held on Tuesday, March 28th, 1916, at Piccadilly, London, W.

Notices of motion for the Annual General Meeting must be received by the Secretary not less than twenty-one days before the Meeting, and must be signed by at least five Members. The last day for the receipt of notices of motion is Tuesday, March 7th, 1916.

Committee.

In accordance with the rules, the Committee shall consist of eighteen members. Members are elected to serve for two years, half the Committee retiring annually. Retiring members are eligible for re-election.

The retiring members of the Committee are:—

Lieut.-Col. R. K. Bagnall-Wild, R.E.
Lieut.-Col. W. D. Beatty, R.E.
G. B. Cockburn.
Lieut.-Col. F. Lindsay Lloyd.
Capt. J. T. C. Moore-Brabazon, R.F.C.
Com. C. R. Samson, R.N., D.S.O.
A. Mortimer Singer.
T. O. M. Sopwith.

The Marquess of Tullibardine, M.V.O., D.S.O., M.P.

Any two Members of the Club can nominate a Member to serve on the Committee, provided the consent of the Member has been previously obtained. The name of the Member thus nominated, with the names of his proposer and seconder, must be sent in writing to the Secretary not less than fourteen days before the Annual General Meeting. The last day for the receipt of nominations is Tuesday, March 15th, 1916.

Extension of the Hours of Opening the Club.

The Club is now open from 9 a.m. to 10.30 p.m. each day, including Sunday.

THE FLYING SERVICES FUND

administered by

THE ROYAL AERO CLUB.

THE Flying Services Fund has been instituted by the Royal Aero Club for the benefit of officers and men of the Royal Naval Air Service and the Royal Flying Corps who are incapacitated on active service, and for the widows and dependants of those who are killed.

The Fund is intended for the benefit of all ranks, but especially for petty officers, non-commissioned officers, and men.

Forms of application for assistance can be obtained from the Royal Aero Club, 166, Piccadilly, London, W.

Subscriptions.

	£	s.	d.
Total subscriptions received to Feb. 8th, 1916...	10,437	2	7
Neville G. Gwynne	105	0	0
Employés of Ruston, Proctor, and Co., Ltd. (Sixth contribution)	2	0	0
Collected at the Westland Aircraft Works, Yeovil (Nineteenth contribution)	0	9	0
Staff and Workers of Gwynnes, Ltd. (Ninth contribution)	10	8	1

Total, February 15th, 1916 10,554 19 8
166, Piccadilly, W. B. STEVENSON, Assistant Secretary.



London Aerodrome, Collindale Avenue, Hendon.

Grahame-White Civilian School.—Straights with instructor last week: Messrs. Baragar, Box, Franck, Holman, Kryn, Leigh, Parkinson, Scheidt, Spencer, Walk, Williams (F.), Williams (S.), Domville, Eichelbrenner, Hathaway, Hodgkinson, Sandys, Stapley and Sloden. Circuits with instructor: Messrs. Verguill, Butler and Grasset. Eights alone: Mr. Howe.

Brevet during week: Mr. Hallett.

Grahame-White School (R.N.A.S.).—Straights with instructor: Probationary Flight Sub-Lieuts. Carr, Gibbs, How, Maxted, and Wigglesworth. Circuits and eights with instructor: Probationary Flight Sub-Lieuts. Aitkin, Jones, Kingsford, Powles, Rees, Templeton and West. Circuits and eights alone: Probationary Flight Sub-Lieut. Evans.

Brevets during week: Probationary Flight Sub-Lieuts. Colquhoun and Cook.

Instructors during week: Messrs. Biard, Hale, Manton Pashley, Russell and Winter.

Beatty School.—The following pupils were out during last week: Messrs. Baldwin, Byrne, Richard, Thompson, Theo, FitzHerbert, d'Allesina, Dunne, Aoyong, Jaquin, Scott, Wainwright, Young, le Champion, Martin, Mattos, Halford-Thompson, Roberts, Knox, Smith, Brewerton, Phillips, Stanley, Tjaarda, Bowick, Collier, Cumming, Edwards, Samter, Schollaert, Willmet, Drysdale, Barrow, Brand, Branford, Mossop, Patterson, Podmore, Sellars, Hungwan and Parsons.

The instructors were Messrs. G. W. Beatty, W. Roche-Kelly, G. Virgilio, R. W. Kenworthy, A. E. Mitchell and L. L. King, the machines in use being Beatty-Wright dual-control and single-seater propeller biplanes and Caudron tractor biplanes. Certificates were taken during the week by Messrs. Baldwin, Williams and Whincup. Four passenger flights were taken.

Hall School.—The following pupils were out receiving practice last week:—With H. F. Stevens: Evans, Redford, Ridley, and Nicolle. With C. M. Hill: Lieut. Cooke, Ormerod, Thom, Dodds, Wooley, Arnsby, Cook, Smith, and Collins. With J. Drew: Milburn, Chapman, Roberts, Neal, Rochford, Smith, Jun., and Bennett. With J. Drew (for A. Chave): Worswick, Taylor, Le Grice, Halliday, Mahoney, Longton, and Rand.

Machines in use: Hall tractors.

Royal Aero Club certificate taken by Evans, and Test A passed by Redford.

London and Provincial Aviation Co.—Pupils doing rolling last week: Messrs. de Goussencourt, Vilain XIII, Aldous, Starey, Foley, Ledure, Houba, Hay, Scott, Rimer, Egelstaff, and Pulford. Doing straights: Messrs. Brown, Moore, Clement, Palethorpe, and Vertongen. Circuits and eights: Mr. C. J. W. Darwin.

Instructors for the week: Messrs. W. T. Warren, M. G. Smiles, H. Sykes, C. M. Jacques, and W. T. Warren, Jun.

Ruffy-Baumann School.—Pupils with instructor last week: Westlake, A. W. Williams, T. Williams, Avenbeke, D'Opstael, Muspratt, Durand, Edgar, Winter, Whitaker, Hoskyn, Dobson, Cox, Yiule, Bolton, Cuthbertson and Wood. Straights or circuits: Muspratt, D'Opstael, Thomsen, Laidlaw, Yiule and Bolton.

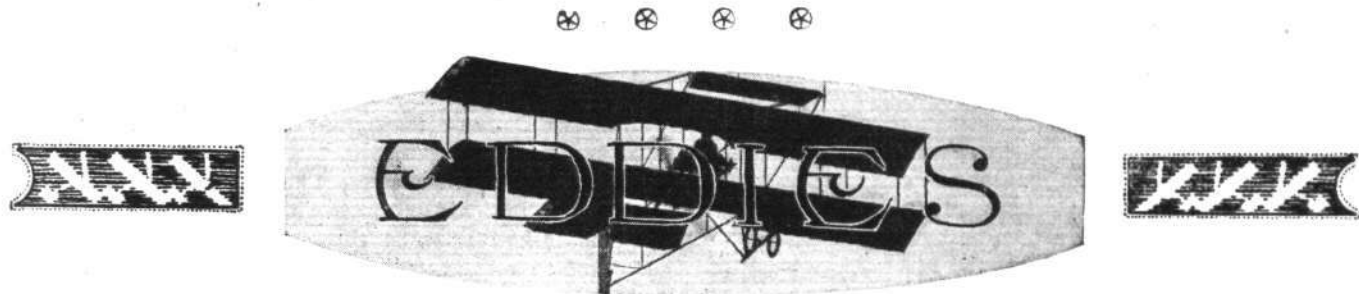
Instructors: Edouard Baumann, Felix Ruffy, Ami Baumann and Clarence Winchester. Machines in use: 60 h.p. and 50 h.p. Caudron-type and Ruffy-Baumann biplanes.

Constructional work and erection has been progressing fairly, and much time has been spent in the air. Altogether a good week's work.

Bournemouth School.

PUPILS doing rolling last week: Messrs. Smith, O. Wilson, J. Wilson, Morley, Devos, W. Mouton, G. Mouton, and Morris. Straights alone: Messrs. Dubois and Meeus. Half circuits alone: Simpson and Bonnevie.

Instructors: Messrs. F. King, J. G. Woodley, and S. Summerfield. Three Caudrons in use.



THE sale of jewels of the late Miss Trehawke Davies took quite the character of a celebrity auction in both the attendance and many of the prices which some of the exquisite jewels fetched. Probably the occasion when her furs and wardrobe are disposed of will bring an equally interested public to Messrs. Rutley's rooms. By the way, the "Trehawke" was an added prefix to Miss Davies' name, possibly in sympathy with her penchant for riding the air—her full name being Miss Eleanor Josephine Davies.

x x x

The fine record of the "Saucy Arethusa," which came to an untimely end last Monday, was not without its connection with aviation. On the occasion of that memorable raid by seven pilots on the Huns-of-war off Cuxhaven on Christmas Day, 1914, it was the "Arethusa" together with the "Undaunted" and a force of destroyers that escorted the seaplanes on their daring mission. Besides dodging and driving off the submarines which came out to attack, she put to flight two Zeppelins which also ventured forth with three or four seaplanes in attendance. After waiting in the Huns' home waters for nearly three hours, she, with the other ships, returned unharmed after the pilots had done their work, with some of them on board. It was a remarkably fine piece of work on the part of the ships, which was not, I think, as fully appreciated by the masses as it should have been. At all events it was an excellent example of what could be achieved by the combined action of warships and aeroplanes.

x x x

When I got the news of F. P. Raynham's—not, as some papers put it, G. W. Reinham's, by the way—nasty accident at Brooklands the other day, it caused very un-

pleasant feelings to arise within me. Raynham is one of those pilots, and if I may say so, friends, who if he were taken from us would always be missing from my world of aviation. It is, therefore, most gratifying to hear, at the time of writing these notes, that his condition is improving and that there is every hope for his recovery. The reports I have had so far as to the nature of his accident have not been very clear, but apparently the tail of his machine broke when he was executing a loop, causing him to fall some 2,000 ft. Thus it was that at first I was antagonistic towards looping. It seemed so useless, so unnecessary. But on thinking it over quietly I came to the conclusion that perhaps, after all, looping has done less harm than good. It is said that it was his skill that enabled Raynham to check his terrible fall towards the end and so lessen its ill-effects. Is it not possible that it was the ability to loop, and the knowledge, skill and confidence gained in so doing, that enabled him to do this?

x x x

I hear J. H. Moore made his first cross-country flight the other day when he flew from Hendon to Farnborough and back on business—and his 50-55 h.p. biplane. He carried with him as passenger on both occasions J. H. James, and on the outward flight he had a strong wind against him so that the journey took him about an hour and a half. The homeward trip only took half an hour, which looks as if this little biplane of his can do quite good work when put to it. Moore told me he experienced no difficulty whatever in finding his way, and that he picked out the various land-marks with ease—but perhaps I had better not mention what these are, in case I give anything away to the enemy!

ÆOLUS.



By THE

"DREAMER."

"Air Raid Hints to the Elderly."

PEOPLE in this generation are the most disbelieving crowd it is possible to conceive. Time and again it has been dinned into their ears that a man is only as old as he feels. I, myself, have expounded this truth times out of number, only to be looked upon with a pitying smile.

It's no use my telling people I am only twenty-five. They don't contradict me, you understand, but they insinuate—just do things. This morning, for instance, I found on my desk a paper cutting headed as above. It had been neatly cut out, and pasted squarely in the middle of a sheet of note-paper (with paper at the price it is!) and marked in blue pencil "Dreamer."

I knew, of course, that it was an insinuation, but I tried to appear perfectly normal—as though it did not affect me.

Have you ever tried to appear perfectly innocent when you have nothing to feel guilty about? It's the most difficult thing in the world!

Suppose you have been to the club, and are a couple of hours later than usual. Suppose you haven't had a single drink except coffee, or perhaps a limejuice and soda. You know how suspicious women are. Because you are late something has happened. She is sure it has. If you haven't got run over in the darkened streets you've fallen among thieves. Or you've met with bad company and been induced to drink whiskey when you know you can't stand it, and your lumbago so bad, too. And so you make a brave attempt to appear perfectly normal, and either overdo the part, or the very fiend himself besets your path. You turn out the gas in the hall without noticing that a candle has been placed three stairs up for you, until you put your toe in the candlestick and skid back on to the mat. To cover up the noise, and proclaim a pure accident without evil consequences, you sing all the way upstairs, a thing you never do except when you are perfectly all right.

Women are fond of having what they call a "twist round," but they always want it to be a surprise for hubby. Consequently you don't know that the bed is now where the wardrobe used to be and the dressing-chest has changed places with the washstand. In the result, when you stoop down and kiss yourself in the mirror of the wardrobe under the impression that you are saluting the dearest-little-woman-in-the-world, in bed, explanations are necessary and ambiguous.

But to return to age.

A man may be a little bald on the top, perhaps, but it is not given to everybody to have luxuriant hair. Again, he may be a little grey about the temples. Well, what of it? Some show distinct greyness at eighteen. A few wrinkles and "crow's-feet"? A thoughtful, studious character, my dear sir, nothing less. Simply a set of circumstances necessitating continual disclaimer, which by the very fact defeats its own ends.

However, you want to know about these rules for the elderly. Here they are, as given.

RULE 1. Lie down on a couch.

Now that is a very simple thing to do. A man who is elderly has no doubt got in a lot of practice, and even the younger ones have done much useful work in this direction. Given a couch, the right company, and a fair field, a man may be relied upon to lie right down below zero.

RULE 2. If in bed, do not rise hurriedly; dress more slowly than usual.

Why it is necessary for a man who is lying in bed to get up and lie on a couch I am unable to discern. So far as bombs are concerned, surely one place is as good as the other, and when it comes to lying some of the elderly ones have had more recent practice at lying in bed, especially following singing episodes.

RULE 3. Do not give way to excitement; talk on cheerful subjects.

Under the circumstances, it seems to me this will take a bit of doing. Still, one can easily avoid the usual subjects talked upon at this season. If the back-stud has come to rest in its usual place beneath the dressing-table, do not use the usual vocabulary. Just hum, "Come to me, Thora," or "Why do they call me Archibald?" or, in stress of circumstances, "Here we are, here we are again," meanwhile poking underneath with the bedroom tongs.

It will induce cheerful conversation if you inform your wife that you have been thinking her allowance is not sufficient to allow her to dress in a manner necessitated by her great personal beauty, and that you intend to bring her a cheque from the office next day. If you are spared, you won't, of course, do anything of the kind, but you can easily explain that it was necessary to do or say something to lift her out of herself, as it were. Also it has this advantage. If you are unlucky enough to get wiped out, it will leave a good impression behind, and might even be the means of inducing Latin to appear on your headstone, as a tribute to yourself and a hint to a possible "Number Two." *Bis dat qui cito dat.*

RULE 4. Have a little brandy ready, and take a small dose to strengthen the heart.

That appears to be the most reasonable proposition, so far, especially as "small dose" is an elastic term governed by what each individual considers a small dose. It may mean anything from a small teaspoonful to a drop in a pail, three hoops up.

RULE 5. Do not smoke at all.

Now did anyone ever hear?—well, there, upon my soul. Do not smoke at all. Just as if a man could ever do anything without smoking; and after brandy too, and the talk of that dress allowance cheque: not even one little cigarette. I protest I would not have considered the whole scheme for one moment, had "no smoking" come earlier in the rules. When the Zeps. have visited me before it is the first thing I have done. But there! I am not elderly, so why bother?

THE ROYAL FLYING CORPS HOSPITAL.

To a large section of our readers no doubt it will come as a surprise that the R.F.C. has already its own hospital where members injured or stricken with illness are tended and cared for with a solicitude for their particular cases, which it would almost be impossible to hope for in a general hospital for the wounded. From the smallest possible beginning the R.F.C. hospital promises to become one of the permanent institutions of the country.

At its inception, due to Dr. Atkin Swan, the one idea was of doing helpful work in immediate connection with the R.F.C., without fuss or thanks, but the calls upon its benefits have been so many, that private and personal efforts can no longer cope with its growth, and it is therefore with the greatest possible pleasure that "FLIGHT" is enabled to present a few notes in regard to its short history and details of the organisation and work which has so far been accomplished. This will demonstrate that it is worthy of the most generous support which can possibly be given to it by not only readers of "FLIGHT," but by every citizen of this Empire who can appreciate what is being daily accomplished by individual members of the Royal Flying Corps on behalf of the nation generally. When Dr. Swan first mooted the foundation of this hospital, he came in touch with Mrs. Hugh Paynter, and it is these two enthusiasts who must be credited with the successful carrying out of the original idea. It is due to their arduous work that the scheme has been enabled to be carried through to its present very satisfactory position.

It was started in order to meet the urgent need which existed for a separate place where officers of the Flying Corps could receive proper treatment for the special injuries to which the nature of their calling renders them peculiarly liable. It was felt that such treatment could best be obtained where the services of eminent London specialists were available and close at hand. In the first instance accommodation was found for a few patients at Netley House, Henrietta Street, W. This was in July last year, and at the end of October a move was made to 37, Dorset Square, N.W., where two wards were available—one on the first floor providing five beds and a second one providing three beds. In addition, an operating room was installed, besides an isolation room for certain patients of whose condition when received there might be some doubt, provision also being made for an officers' sitting room, bathrooms, nurses' rooms, &c.

A very great feature of the whole scheme is that everything is voluntary, with the exception of the trained head nurse and the necessary domestic help for the building. Otherwise, under the generous guidance of Mrs. Hugh Paynter, a number of voluntary helpers are in regular attendance to look after the patients, who are unfortunately steadily forthcoming to occupy the available beds.

A most generous list of specialists comprise the staff, and again all these well-known professional men attend and give their services entirely free. The hospital has the further advantage of having received what may be termed official recognition in the acceptance of the Presidentship by Major-General Sir David Henderson, K.C.B. To enumerate the members of the staff, who, as already stated, place their services entirely free at the disposal of the Committee, gives an idea of the exceptional treatment which is possible for members of the R.F.C. when under the hands of these specialists. The

following is a list of those who now attend in this capacity:—

Surgeons—Sir W. Arbuthnot Lane, F.R.C.S.; R. H. Jocelyn Swan, F.R.C.S.; Harold Chapple, F.R.C.S.

Physicians—J. Newton Pitt, M.D., F.R.C.P.; Cecil Wall, M.D., F.R.C.P.; W. J. Jagger, M.D.; J. T. C. Laing, M.B.; C. Atkin Swan, M.B.

Surgeons for Nose, Throat, and Ears—Richard Lake, F.R.C.S.; Philip Franklin, F.R.C.S.

Neurologists—A. S. Blundell Bankart, M.D., F.R.C.S.; Edwin Greaves Fearnside, M.D., F.R.C.P.

Ophthalmic Surgeons—Ernest Clarke, F.R.C.S.; G. Hartridge, F.R.C.S.

Dermatologist—H. W. Macleod, M.D.

Bacteriologist—John Eyre, M.D.

Anæsthetists—G. Rowell, F.R.C.S.; H. Charles, M.R.C.S.

Radiographer—R. Knox, M.D.

Dental Surgeons—Percy Edgelow, M.R.C.S.; Frederick Forsyth, M.R.C.S.

In addition there is of course the Lady Superintendent, Mrs. Hugh Paynter; the Treasurer and Secretary to the Committee, H. G. Jeaffreson; a Masseur, P. F. Lindquister; and two Masseuses, Mrs. Herbert Page and Miss Pulker.

It will be readily understood that the cost of carrying on a hospital even when all the main help is voluntary is a very onerous business, and one that can hardly continue entirely by the help of private subscriptions and donations. Up to the present, however, this has been done, and all honour to those who have come forward so generously in this respect. What has materially helped to carry through such a work has been, in the first instance, subscriptions from Mr. and Mrs. Hugh Paynter of £10 per week, and Mrs. Holt Thomas also £10 per week, whilst an anonymous half-yearly subscription has been forthcoming at the rate of £250 per annum. In addition there have been numerous donations, including the following:—John Noble, £21; F. Barkworth, £10; Major Barkworth, £10; W. Barkworth, £5; Mrs. Pumphrey, £10; J. Falkner, £5; Sir Frederick Cook, £1 1s.; Ras. Piggott, £5 5s.; Sir Thos. Berridge, £5; Mrs. Pease, £1 1s.; J. E. Barkworth, £1 16s.; Sir Percy Girouard, £10; C. Greenway, £10; H. G. Jeaffreson, £5 5s.; Capt. H. Sammon, £5; Miss V. Barkworth, £5 15s.

The proportion of these subscriptions and donations with which the accounts to January 11th, 1916, deal amount to £867 10s., and the time has now come when it is felt that a greater effort should be made and a more general appeal issued for help to continue successfully this splendid institution which has been so very happily founded.

It is already necessary that greater accommodation should be afforded, and it is hoped in the course of a few months to remove the hospital to larger and more suitable premises, and it is very satisfactory to learn that already a more suitable house has been offered to the Committee rent free, and when the necessary funds are forthcoming for fully equipping this establishment with the necessary beds, &c., a move will be made to the new premises.

In addition a most generous contribution has been made to the help of the hospital by Brig-Gen. the Right Hon. J. E. B. Seely, C.B., D.S.O., who is lending Brooke Hill, Freshwater, Isle of Wight, to be used for the purpose of a Convalescent Home in connection with

the hospital. Moreover Brig.-Gen. Seely is defraying the greater portion of the expenses in connection with the maintenance of the Convalescent Home. This home is already occupied by officers, under the care of Mrs. Marindin, who has undertaken the duties of Lady Superintendent.

Since the opening of the hospital 99 officers have been treated, as follows:—Surgical cases, 14; medical cases, 40; ophthalmic cases, 11; dental cases, 34. In addition the medical staff have voluntarily seen at their own consulting rooms 103 officers, whilst at Netley House, prior to October 25th last, 30 officers received treatment.

It is quite obvious that without the financial help which is now sought the Hospital and Convalescent Home cannot be maintained in a state of efficiency. By way of a start, substantial help, however, has now been arranged through Major-General Sir David Henderson in the form of a contribution of £1,000 per annum from the Royal Flying Corps, this contribution going towards the maintenance of the Hospital and the Convalescent Home jointly. The first quarterly payment of this subscription was received only on January 13th last. Prior to this subscription being completed the accounts were made up to January 11th, and audited, as honorary auditors, by the well-known firm of accountants, Messrs. Cole, Dickin, and Hills, of Sardinia House, Kingsway, the same firm undertaking to periodically audit the accounts in the future.

Since the date of the audit the expenses have considerably increased, as at first only the barest surgical and medical equipment were purchased. Lately a larger staff has been required owing to severe cases needing individual nursing, and further purchases of surgical and medical necessaries which were urgently required.

As nothing can be more convincing as to the voluntary nature of the whole undertaking than the statement of receipts and payments for the period in question, we give the summarised details of the payments for the entire period from the inception of the hospital until January 11th last, showing how the whole total of £867 10s. has been dealt with by those responsible for its disbursement:—

Payments.		£	s.	d.
Netley House Nursing Home expenses	...	103	10	8
Quarterly rent, Dorset Square	...	81	18	0
Provisions:—Meat, fish, poultry, butter, cheese, milk, bread, grocery, vegetables, &c.	...	124	2	0
Surgery and Dispensary:—Drugs, chemicals, &c., £28 4s. 2d.; surgical equipment, £33 2s. 9d.; instrument appliances, £6 6s.; wines, £6 7s. 7d.	...	74	0	6
Domestic:—Hardware sundries and cutlery, £13 15s. 1d.; crockery, £9 7s. 2d.; coals, £21 10s.; laundry, £17 17s. 9d.; linen, £33 1s. 7d.; blankets, beds, and bedding, £29 19s. 11d.; linoleum, £14 0s. 11d.; lamps, bells, electric light repairs, £13 1s. 1d.	...	152	13	6
Salaries and wages:—Nurses' salaries, £27 10s. 8d.; servants' wages, £30 14s. 9d.	...	58	5	5
Establishment charges:—Postage and stationery, £5 8s. 2d.; travelling, carriage, telephone, and sundries, £13 19s. 5d.	...	19	7	7
Cash at bank	...	£250	3	0
Cash in hand	...	3	9	4
		253	12	4
		867	10	0

There are now eight beds, and though the present income is sufficient for the present needs, a much larger sum will be needed for the decorating, furnishing, and upkeep of the proposed larger hospital holding 15 or 16 beds which are even now badly needed.

We with the utmost confidence therefore now most

earnestly appeal to every reader of "FLIGHT" to help towards this very excellent institution by sending subscriptions to the Secretary of the hospital at 37, Dorset Square, and we would say that every subscription, however large or however small, will be welcome, and will be duly acknowledged by the Committee direct and through the press.

By way of a commencement, since the audit the following donations have been received:—Colonel Haddock, £5; Miss V. Barkworth (additional), £5; J. E. Barkworth (additional) £5; Captain and Mrs. Smith-Barry, £52 10s.; J. A. Moxey, £50; Cosmo Bonsor, £5; Colonel Mackinness, £25; Captain Bannatyne, £20; Colonel Paynter, £5; Major Warner, £5; Mrs. Warner, £5; Mrs. Chatterton, £1; W. J. Wilson, £2 2s.; Capt. Berridge, £2 2s.; Miss McCleod Fraser, £5.



FLYING AT HENDON.

THERE is very little to report on the flying at Hendon for the last week-end, for although the weather was fine, on Saturday at any rate, the work that took place was little out of the ordinary and not nearly so interesting as it has been of late. The usual pilots were to be seen flying the usual machines as usual, but for some reason or the other none of them appeared to be over-energetic. J. H. Moore made three flights on his 50-55 h.p. biplane, at one time taking a lady passenger. R. Kenworthy put up some stunts on the 50 h.p. Beatty-Wright biplane, and W. Roche-Kelly followed his example shortly after. As far as I could see all the G.-W. pilots were at work, but it being somewhat muddy under foot I did not venture as far as their end of the aerodrome to ascertain. Sundry school machines, mostly of the Caudron type, were to be seen rolling and hopping across the aerodrome, whilst one gave a very good impersonation of one of the pylons by standing on its nose after trying to fly horizontally, vertically. Several service machines also went up, consisting of B.E. 2C's, Burgess pushers, Curtiss, De Havilland two-seater pusher, and, I think, a Thomas tractor.

On Sunday Claude Grahame-White, for a man who had been nearly done to death in France, was looking particularly fit about the time he was being so generously "laid out" by the usual rumorist. These gentry have in Claudie a tough customer to get rid of.



The "L 19" and a Reunion.

ONE result of the publicity accorded to skipper Martin of the trawler which found the wrecked Zeppelin "L 19" was that he discovered his sister, living at Birmingham, whom he had not seen or heard of for nineteen years.

German Seaplanes over Danish Capital.

ANOTHER instance of Germany's disregard of neutrality is instanced by the *Times* correspondent at Copenhagen. Writing on February 13th, he says:—

"Although German naval airmen stationed in the Sound have, it is understood, orders not to fly over neutral territory, a German seaplane yesterday, the weather being suitable for observation, flew over Copenhagen at a height of 3,000 ft., following from Amager the line of the inner forts. A Danish officer immediately went up in a swift monoplane, and the German turned eastwards over the Sound. The German afterwards returned, flying from north to south over the city, passing the outer forts, and finally turned towards Køge-Bugt.

"The Danish Minister in Berlin has been instructed to lodge a protest. Representations have also been made in Berlin respecting the cancelling of contracts for the delivery of iron goods at the old prices. The prospects of redress are small."

AIRCRAFT WORK AT THE FRONT.

OFFICIAL INFORMATION.

British.

War Office, Feb. 9th.

"With reference to the Berlin Main Headquarters report, dated February 8th, 1916, to the effect that a German aeroplane squadron attacked Poperinghe railway buildings and camp, Sir Douglas Haig reports that a hostile aeroplane dropped four bombs near Poperinghe Station, but that no damage was done."

General Headquarters, Feb. 10th.

"Eighteen aeroplanes carried out a successful bombing raid yesterday on enemy huts at Terhand. Several huts were damaged and a steam lorry was hit. All our machines returned safely."

General Headquarters, Feb. 12th.

"The facts of the German aeroplane attack described in the German wireless of the 8th instant are as follows:

"Eleven hostile machines appeared. One machine dropped three bombs about six miles behind our front line. It was driven down by two of our machines, crossing the line at 500 ft. The remainder did not face our patrols, nor did they cross the line."

General Headquarters, Feb. 13th.

"There has been considerable aerial activity by both sides about Ypres."

War Office, Feb. 14th.

"Mesopotamia.—A report dated February 13th from General Aylmer states that the situation is unchanged, and he also reports that an aeroplane flew over Kut, dropping two bombs, and that no damage was done."

General Headquarters, Feb. 14th.

"Yesterday there were seventeen fights in the air. As a result of one of these, a large hostile double-engine machine was driven down in the enemy's lines."

French.

Paris, Feb. 13th. Evening.

"A German aeroplane cannonaded by our batteries fell in flames to the east of Givenchy and was captured."

Russian.

Petrograd, Feb. 8th.

"A squadron of our seaplanes attacked with bombs a large steamer anchored at the jetty at Zunguldak (on the Anatolian coast)."

Italian.

Rome, Feb. 13th.

"Yesterday enemy aeroplanes flew over Codigero, in the province of Ferrara, over Boterighe, in the province of Rovigo, and over Ravenna. Bombs were dropped and caused some casualties among the civilian population, fifteen persons being killed and a number wounded. Among the killed were several women and children."

"At Codigero and Boterighe slight material damage is reported, but at Ravenna the civil hospital, which is a Red Cross station, was struck and damaged, as well as the Basilica of Santo Apollinare, a portion of the portico of which was destroyed."

German.

Berlin, Feb. 8th.

"A German aeroplane squadron attacked the camp at Poperinghe and the English camp between Poperinghe and Dixmude. After frequent fights with the enemy aeroplanes which ascended for defence, our squadron returned without loss."

Berlin, Feb. 9th.

"In the Bois le Pretre an enemy aeroplane was shot down by our infantry. It fell down in flames, and the two occupants lost their lives."

Berlin, Feb. 14th.

"Our aeroplane squadron attacked the railway establishments and military encampments of the enemy on the northern portion of the front."

Berlin, Feb. 13th.

"Our aeroplanes bombarded enemy positions and railway establishments of La Panne and Poperinghe with bombs."

"An attack made by an enemy aeroplane at Ghisteltes, south of Ostend, caused no damage whatever."



AIRCRAFT AND THE WAR.

THE *Daily Mail* correspondent at Athens, writing on February 9th, says:—

"Information has been received from Mytilene that a squadron of French aeroplanes bombed Smyrna yesterday. The damage done is not stated."

A Central News message from Amsterdam, dated February 10th, says:—

"The Allies' aviators have again been very active. Bombs were thrown on German camps, parks of artillery, and buildings used for military purposes. Since February 3rd forty-seven Allied airmen have executed raids on camps at Houthust, causing serious damage."

The following details of the air raid on Zunguldak were communicated from an authoritative source in Petrograd last week:—

"The Russian seaplanes on February 6th dropped bombs upon the most important Turkish land establishments and constructions for hauling and loading coal, as well as upon a large enemy steamer lying near the jetty. The bombardment by the aircraft appeared to cause considerable damage, and fires were seen to break out both on shore and on numerous small wooden ships lying behind the quay. Some bombs were also observed to strike the steamer, which apparently suffered extensively. Despite an intense fire from the shore, all returned safe. While the seaplanes were rising from the water the Russian auxiliary cruiser was attacked by an enemy submarine, which fired a torpedo from a short distance. The cruiser, however, succeeded in evading it. The submarine was fired upon by the cruiser, and disappeared, not to be seen again."

A correspondent of the *Daily Mail* at Hazebrouck, writing on February 5th, says:—

"Two German aeroplanes flew over Hazebrouck (17 miles south-west of Ypres) on Saturday morning towards 11 o'clock, and were driven away very quickly by the Allies' aircraft and shrapnel. The Germans flew on to Saint Omer, where one machine dropped several bombs, killing two British soldiers and a civilian. This aeroplane is stated to have been brought down near Saint Omer."

The *Daily Telegraph* correspondent at Rome, writing on February 11th, regarding the situation in Albania, says:—

"Essad's troops have good artillery at their disposal. His followers are excellent shots, and have succeeded in shooting down several Austrian aeroplanes, two of which have been captured."

The *Daily Mail* correspondent at Rome, writing on February 13th, says:—

"Italy is greatly enraged at the crime committed at Ravenna by Austrian airmen, who dropped bombs, killing fifteen persons, the majority of whom were women and children, and seriously damaging the Church of S. Appollinare Nuovo, one of the most beautiful and ancient churches of Ravenna."

"This new act of vandalism, committed in spite of the representations of the Pope to the Austrian Emperor, has caused a painful impression."

The *Daily Mail* correspondent at Territet, writing on February 10th, says:—

"During a visit by the German Crown Prince to St. Ludwig, Alsace, near Bâle, on Tuesday afternoon, a large French air squadron was observed heading for the town. The alarm was immediately given and caused great commotion."

"German aeroplanes set out to meet the invaders, the Crown Prince and his staff the while departing in their motor cars."

Writing under date February 13th, the *Daily Mail* Parisian correspondent says:—

"When landing at the Chateauford aerodrome, near Buc, the other day, the French airman Neungessen met with a serious accident. M. Neungessen, although only twenty-three years of age, is one of the finest pilots in the French Army."

"Like Sergeant Guynemer, whose exploit was mentioned in the *Daily Mail* last Monday, he has brought down five German machines. At the beginning of the war he was in a cavalry regiment, but transferred last year into the air service. As an aerial bombardier he took part in a raid on Ostend, and is said to have destroyed three enemy submarines. His third fight, with the German Fokker fighting scouts, was extremely exciting. Engaged with two enemy machines, he winged one with his quick-firing gun, and saw the observer pitch headlong to the ground. With another bullet he killed the pilot. The second Fokker fled."

"The audacious young pilot wears the military medal, the War Cross, and the Cross of the Legion of Honour."

"After the tragic death of Pégoud, the celebrated upside-down airman, François Pégoud, his brother, became very despondent. Yesterday morning he was found dead in a wood between Choisy-le-Roi and Versailles. He had committed suicide by hanging."

An Exchange message from Athens, dated February 9th, says:—

"German aeroplanes attempted yesterday to bombard the Allies' camps at Zeitinlik. They were cannonaded by our batteries, and disappeared northward."

Writing from Milan on Monday afternoon to the *Daily Telegraph*, Mr. A. Beaumont says:—

"Milan and Monza were the victims for the first time to-day of a hostile aeroplane incursion. Austrian machines appeared over Milan about nine o'clock. They were immediately the object of pursuit by Italian aeroplanes, and were shelled by anti-aircraft batteries.

"The sun was shining beautifully in a perfectly clear sky when two aeroplanes were sighted at a considerable height—perhaps 9,000 ft.—and hardly visible to the naked eye. Firemen galloped through the town warning the inhabitants, most of whom, however, even after the anti-aircraft guns had begun sending shells into the sky, failed to realise the danger. The appearance of a number of Italian aeroplanes, which were gradually circling to the height of the assailants, gave the impression to the vast majority of the spectators in the streets that only aerial defence practice was in progress.

"Soon, however, the bombs dropped by the Austrian machines in the quarters of Porta Romana and Porta Volta and Porta Nuova revealed the real nature of the attack, but this hardly prevented the crowds satisfying their curiosity and standing in the streets and public squares to watch the progress of the aerial battle, which at a certain moment was of thrilling intensity.

"Small puffs of white clouds following the explosion of each shell dotted the sky over the city, and formed the object of curiosity and wonder. The bombs dropped by the air-fiends in the quarter of Porta Romana struck a school, damaging the building, and one bomb exploding near a bicycle shop injured a little boy. Another bomb exploding near by killed two persons, injuring two others. The bombs dropped in the quarters of Porta Nuova and Porta Volta killed three other persons and injured several more.

"The aerial bombardment in the Porta Romana quarter was intense, the firing of the guns and the explosion of shells following in rapid succession. One of the bombs in Porta Volta damaged a house, and another killed a poor labouring man, aged 60, who was at work, and a third wounded eight persons, two rather seriously. Another bomb fell on the crossing of the tramlines, tearing up the rails and killing a boy aged 14.

"The Austrian aeroplanes also dropped some incendiary bombs. These, however, fell near the cemetery, causing only holes in the ground, but in the quarter of Porta Nuova a bomb fell on a newspaper kiosk, killing a poor old man inside and injuring two passers-by seriously.

"By this time the enemy aviators were being closely pursued by the Italian machines, and leaving Milan they dropped bombs over the suburbs of Greco and Turro Milano, killing some animals and injuring a few persons. Finally, the aeroplanes reached Monza, and dropped several bombs at short intervals, killing one man in a courtyard, who stood looking at the sky, and three women and a boy were injured.

"Three aeroplanes had appeared near Brescia, and yet only two arrived at Milan. What became of the third is not yet known, and it is hoped that it was destroyed. Finally, as the return flight is more than sixty miles, and the two Austrian machines were closely followed by a swarm of Italian aeroplanes, it is quite possible that they may also have been brought down before reaching their base, but at present nothing is known of their fate.

"The famous cathedral of Milan escaped unscathed.

"Austrian aeroplanes, as announced in an official *communiqué*, visited Ravenna, Bottrighe, and Codigoro, on the Adriatic coast, on Saturday, killing 15 persons, including some women and children. General indignation is felt at the vandal attack on the famous Basilica of Ravenna, known as St. Apollinare Nuovo, of which they destroyed part of the ante-portico, and which must not be confounded with another old church some miles outside the town, known as St. Apollinare in Classe."

Writing on Monday, the *Daily Telegraph* correspondent in Paris says:—

"Rouen and Havre had their first Zeppelin visit, but the enemy airship, after just reaching both towns, thought better of it, turned tail, and fled fast. Neither Havre nor Rouen were at all disturbed. In the latter town the first alarm was given to the electric company, which cut off all lights and stopped the tramcars. Passengers got out and stood gazing skywards.

"In the theatres the sudden darkness produced no sort of panic. In some cases the performances went on by candlelight. Meanwhile, in the streets, some squares where gas is used remained brilliantly lit for half an hour, when gasmen rushed round putting out lamps. Rouen considered this method a little primitive.

"Gunfiring was not heard till half an hour after the electric light was put out. The Zeppelin was then presumably frightened off, and no Rouennais ever saw it."

The Pope, according to a Reuter message from Rome on Sunday, is stated to be deeply grieved at the injury caused by Austrian aeroplanes to the most precious of Byzantine art treasures, the church of Sant' Apollinare Nuovo in Classe, at Ravenna. It is reported that His Holiness will again appeal to the Emperor of Austria, asking him to spare churches and monuments from attacks.

Information received from East Africa states that on January 7th, British aeroplanes successfully attacked two hostile camps near Voi, occasioning much damage.

There was a second alarm in Milan at 2 p.m. on Monday, but the raiders did not put in an appearance.

At 9.30 a.m. two incendiary bombs were dropped in the neighbourhood of Triviglio and three on Bergamo, without causing any damage. About 9.45 six enemy aeroplanes appeared over the suburbs of Brescia, but owing to the heavy fire of anti-aircraft artillery they were unable to approach the town, and flew away.



"Life is a mirror—smile at it and it will smile back; frown at it and it will frown again."

THEY were on a route march, and Brown had fallen out twice already. The third time the commanding officer came up to him and said: "I think you had better apply for a transfer into the R.F.C.—you'll only fall out once then."

THE Government still seems to think that, when Zeppelins are about, the best policy is to "play possum." But we must not confuse this with the Latin grammar interpretation of the word—"Possum, I am able."—*Whipped Topics*.

FOND MOTHER (with the usual looking boy). "Yes, my son wishes to enter the Air Service when he's old enough. You see, he always blows up his own tyres; so, as he says, he'll know something about it."—*London Opinion*.

GRANNIE (dragged out of bed at 1.30 a.m., and being hurriedly dressed as the bombs begin to fall): "Nancy, these stockings are not a pair."—*Punch*.

Hun Hen Frightfulness.

THE aged widow of a farmer who had heard forty bombs exploding in one parish, on being told that the total bag was twenty hens killed, exclaimed: "Fancy that, now, and just at the time of year when they begin to lay eggs."—*R. Stephenson in the Daily Mail*.

Too Evident.

NERVOUS OLD LADY (on small English air-bus): "Oh, dear! How we're rocking! I'm sure an accident will happen to this machine!"

ELDERLY ABORIGINAL: "It's along o' their bein' short-handed wi' skilled men, mum, so my son's offered to drive her just to oblige, and (confidentially) I don't think 'e knows much about it."

"AEROPLANE quality at submarine prices" announces a placard in a fruiterer's window at Cardiff.

R.N.A.S. WORK AT THE DARDANELLES.



TELLING pen-picture of the splendid work done by the Royal Naval Air Service at the Dardanelles is given by the following article, passed by the Admiralty, which appears in the *Evening News* of the 14th inst. :—

"The flying machines of the R.N.A.S., which have been doing all the aerial work both for the Navy and the Army in the Dardanelles operations, include, in addition to aeroplanes and seaplanes which are borne on seaplane ships, kite balloons carried on ships used for spotting purposes in conjunction with warships and monitors and submarine scout airships.

"The aeroplanes in use in these parts are of two kinds—large two-seater 'pusher' machines, together with a certain number of trainers, fitted with machine-gun and wireless.

"These machines are used for spotting purposes both for the ships firing at invisible targets, such as Kilid Bahr, Chanak and Ak Bashi Liman, from positions at anchor in the Gulf of Saros and firing over the Peninsula, and also for our heavy land batteries firing at Turkish batteries and positions behind the Turkish lines.

"This class of machine is also used for long distance reconnaissances and bomb-dropping attacks. The other type of machine in use is the fast scout, a single-seater tractor with pilot only, and armed with a Lewis gun, fixed with machine, and which is fired by the pilot aiming the machine at any hostile aeroplane he is attacking.

"These machines are used for reconnaissance work and fighting in the air, and nearly always accompany a 'spotting machine' as guard against enemy attacks. All machines are fitted with bomb-dropping gear.

"The bombs used by us are 20 lbs., 65 lbs., 100 lbs., 112 lbs., and some even of 500 lbs.; several of these 500-pounders have been dropped on various camps and on the principal Turkish aerodrome at Galata. There is also a Turkish aerodrome at Chanak.

"The effect of the explosion of one of these enormous bombs is simply terrific. I saw one explode on the slopes of Achi Baba, and a huge column of black smoke caused by the explosion reached several hundred feet up into the air, and even at the distance I was standing at the time, some ten miles from the scene, I could hear the noise of the burst as though it had taken place within a few hundred yards.

"Some very effective work has been carried out by the Navy in conjunction with the R.N.A.S. aeroplanes spotting for the big guns of the ships and monitors against points of importance on the Turkish-Bulgarian communications and the concentration areas of Bulair, Gallipoli, Uzam, Keupri, &c. Effective bombardments have also been made on railway bridges and junctions at Bodoma, Dedeagach, the important road bridge at Kavak, and the very important supply depot and flour mills at Gallipoli town; on one occasion the 14-inch guns of one of our monitors were spotted by an aeroplane on to these flour mills, and four direct hits were obtained in succession at a range of 19,800 yards.

"Turkish columns and transport moving along the roads and ammunition and supply depôts have been harried in the same manner and also by bombs being dropped upon them by aeroplanes. In this way large camps in Soghanli Dere and large stores at Kilid Bahr and Ak Bashi Liman have been severely damaged.

"Many bomb attacks, both by single machines and also by several machines in company, have been made with success on camps and convoys in the Kavak-Keshan-Uzum-Keupri-Adrianople area and the railway bridge at Kuleli Burgas over the Maritza river on the Turkish-Bulgarian frontier, one such attack being carried out during the night of November 14th by Flight-Commander Smyth Piggott, who dropped his bombs on the bridge and railway line from a height of only 500 feet.

"According to a Turkish prisoner who was there at the time, in one of our raids on a camp at Keshan one of our bombs killed thirty Turkish soldiers.

"The town and railway junction at Terejik, in Bulgaria, was also attacked on several occasions. It was in one of these attacks that Wing-Commander R. B. Davies earned the V.C. and Flight-Lieutenant Smylie the D.S.O.

"Smylie, while circling over the station at a low altitude to drop his bombs, had his petrol tank hit by a bullet, and was forced to descend—he managed to glide down on to some marshes a mile or so outside the town. Before doing so he had dropped two of his bombs.

"On landing he set fire to his machine, having exploded the remaining bomb with his revolver, and proceeded to run towards the River Maritza, his explanation afterwards being that he would prefer to be captured by Turks rather than Bulgarians.

"Davies, who was also attacking the railway, saw what had occurred, the machine burning on the ground, and descended on

the marshes, picked up Smylie, and returned to our aerodrome at Imbros.

"This feat of Davies is all the more remarkable in that he was flying a fast machine, with a speed of over 90 miles an hour, and only a pilot of the greatest skill and experience could have landed such a machine at all upon what was an absolutely unknown piece of ground.

"Another interesting fact is that the machine being a single-seater, and Smylie being well over six feet, it was a matter of some difficulty for the latter to curl himself up in the bottom of the fuselage at Davies's feet.

"When Smylie started to run towards Turkey to escape from the Bulgars, whom he could see pouring out of the town to the scene of his burning machine, he took off his flying coat and leather trousers, and had the extraordinary coolness to scribble a note, 'Please return to Flight-Lieut. Smylie, Aerodrome, Imbros.'

"An important feature of the aeroplane operations is the great number of long-distance reconnaissance flights which were made over the interior of Turkey for the purpose of reconnoitring the roads and railways and discovering any movements of troops, guns, and stores coming down to the peninsula. For this purpose machines on numerous occasions have been up as far as Rodosto on the Sea of Marmora, on the coast road from Constantinople, which is over 100 miles from our aeroplane base, and flights over the roads through Kavak, Keshan, and Malgara, and the railway line running along the Bulgarian coast through Dedeagatch were matters of almost daily routine.

"In addition to the other work of the R.N.A.S., an important branch of their duty has been to take photographs of the Turkish camps, gun positions and trenches; a photographic survey has been made of all the enemy's positions at Suvla, Anzac, and Cape Helles, and many thousands of photographs have been taken; these have invariably been taken from a low altitude and always under a heavy fire. These photographs have furnished material to the G.H.Q. Map and Survey Section which was essential in the compilation of the detailed maps of the enemy's works. The Anzac and Suvla front shown in this photographic survey was some twelve miles in extent, and was photographed to a depth of over 9,000 yards.

"On several occasions there have been fights in the air between our machines and the Germans: on one occasion one of our machines, while spotting for ships' guns, with Flight-Commander Busk (who, unfortunately, is now missing) and Captain Edwards, R.G.A., as observer, attacked and drove off a Taube which appeared and attempted to drop bombs on the ship.

"The enemy was forced down over his own lines, our machine following him down to a height of only 1,000 feet, and coming under very heavy machine-gun and rifle fire at close range. All this time both observers were keeping up a hot fire, Captain Edwards with a mounted Vickers gun and the German with some kind of automatic rifle fired from the shoulder.

"Though the planes of our machine were riddled with bullets and Captain Edwards had one bullet through his leather trousers, which also passed through Busk's sleeve, bruising his arm, our machine returned in safety.

"During the operations of the evacuation of Helles there were several flights. Flight-Lieutenant Brinsmead and Lieutenant Boles, the observer of the Dorset Regiment, being attacked by three fast biplanes of the Aviatik type in company, and shot down, both unfortunately being killed, and the following day Flight-Sub-Lieutenant Bolas and Midshipman Bransom were also attacked and shot down by superior numbers.

"On January 16th our machines were engaged twice during the afternoon with enemy aeroplanes. Flight-Lieutenant Savory, armed with a Lewis gun, in a Nieuport, opened fire on a German from a range of 50 ft. He fired off two complete trays of ammunition into the enemy, sending him into a steep nose dive crashing to the ground. Flight-Lieutenant Bettington on the same afternoon shot down a German seaplane which was seen afterwards drifting helplessly down the straits below Chanak.

"Throughout the operations in this theatre of the war a perfectly equipped French aeroplane squadron under Commandeur Césari, a fine pilot and a good fellow, from their aerodrome on the island of Tenedos has done an enormous amount of valuable work on the same lines.

"A great feature of the French operations has been their 'escadrille de bombardment,' which has executed a great number of organised raids at frequent intervals and inflicted great damage on the Turks. On one occasion, on December 20th, they dropped nineteen bombs on camps at Boghali, nine on store depôts at Akbashi Liman, nineteen on Chanak, and seventeen on Turkish camps in Suleiman Nullah; and on another occasion, January 6th, twelve of their machines attacked Galata aerodrome and dropped between them 135 bombs of various sizes."

G.A.C.



DE-
VELOP-
MENTS.

Exterior of the new works at Willesden.

It would seem there could be no limit to the activities of the General Aeronautical Co. in reaching out and bringing under their own supervision all those things relative to aviation embraced by the word "general." Not content with *supplying* everything aeronautical, they have, wherever possible, attached them one by one to themselves as articles of *their own manufacture*.

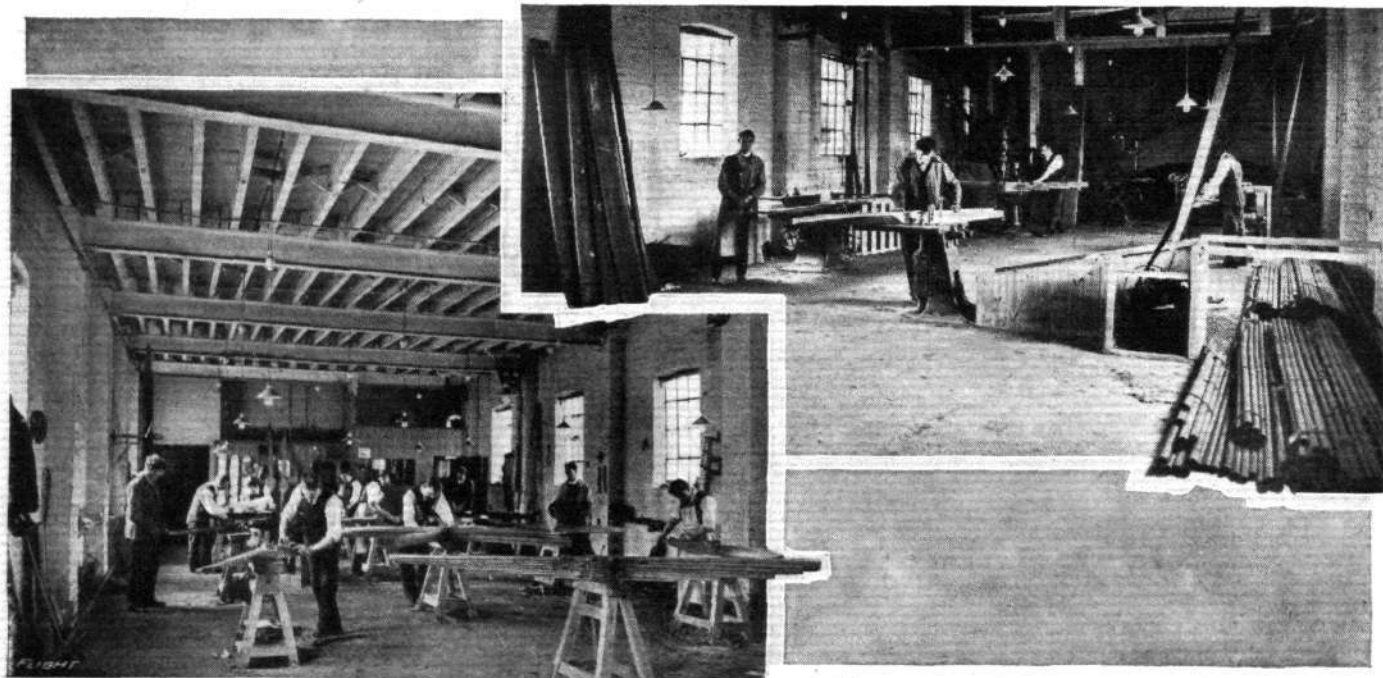
Airscrews, and many of them, they have naturally supplied to order, but not until recently have they undertaken their actual production. With the great call for this very vital part, brought about by the present activities in aviation, and the ever-growing, urgent necessity for speedy delivery, it became almost a personal duty to the country that the G.A.C. as a trading concern, having the necessary skill and knowledge, backed by the wherewithal to start on a sound footing, should decide to make airscrews a proprietary article.

Already cramped for room at their small factory at Shepherd's Bush, they recently took the opportunity of acquiring large factory premises at Hythe Road, Willesden. Here, not only is there ample space for manufacturing on a large scale, but so commodious are the buildings that they are able to carry on on the same site their ever-growing business in the preparation of their famous dope "Emaillite."

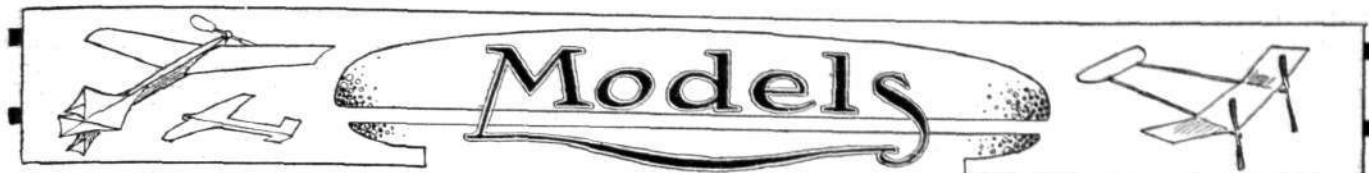
Occupation having been obtained only in January, and much building having had to be done, the premises were, on the occasion of our visit last week, hardly in full swing. Nevertheless, such is the energy displayed by the executive of the firm, that they have already been able to execute several orders for airscrews,

including one for a number of four-bladers for the King of Siam, some of which can be seen ready for dispatch in the picture forming the heading of this article. Naturally, as agents for the Anzani engine, they make a speciality of airscrews suitable for use on machines equipped with these engines, from the low-powered school Caudron, upwards. The supply of "G.A.C." and Regy propellers will be continued as before, and those having need of these, or wishing propellers made to their own blue-prints, may get into touch with the G.A.C. with every confidence that the results will be strictly true to pattern. Our photographs do not in any way convey an adequate idea of the works as they will appear when completed, owing to the fact that work is temporarily restricted to one floor, whilst the huge floor above is being prepared and fitted with every convenience modern practice can suggest, including a dust-proof glueing-room where the numerous laminations will be incorporated, and left to set in an even temperature. An item worth noting is that the proprietors have been exceptionally fortunate in obtaining a supply of well-seasoned walnut, of a quality which could not be surpassed, and with their usual business acumen, they bought up the entire batch, in extent such, that they could not find accommodation for the entire delivery, even with the storage space now at their disposal.

In these days of shortages in materials, owing to the war, this should relieve their minds of much anxiety with regard to the future, and also add materially in helping on unrestricted production so necessary under present conditions.



Two of the G.A.C. workshops, showing, on the left, propeller carving, and, on the right, the sawing and planing plant.



ALL communications in connection with this section should be addressed to the Model Editor, "FLIGHT," 44, St. Martin's Lane, London, W.C. Correspondents are requested to write on one side of the paper only.

Experiments with Divided Tail Models.

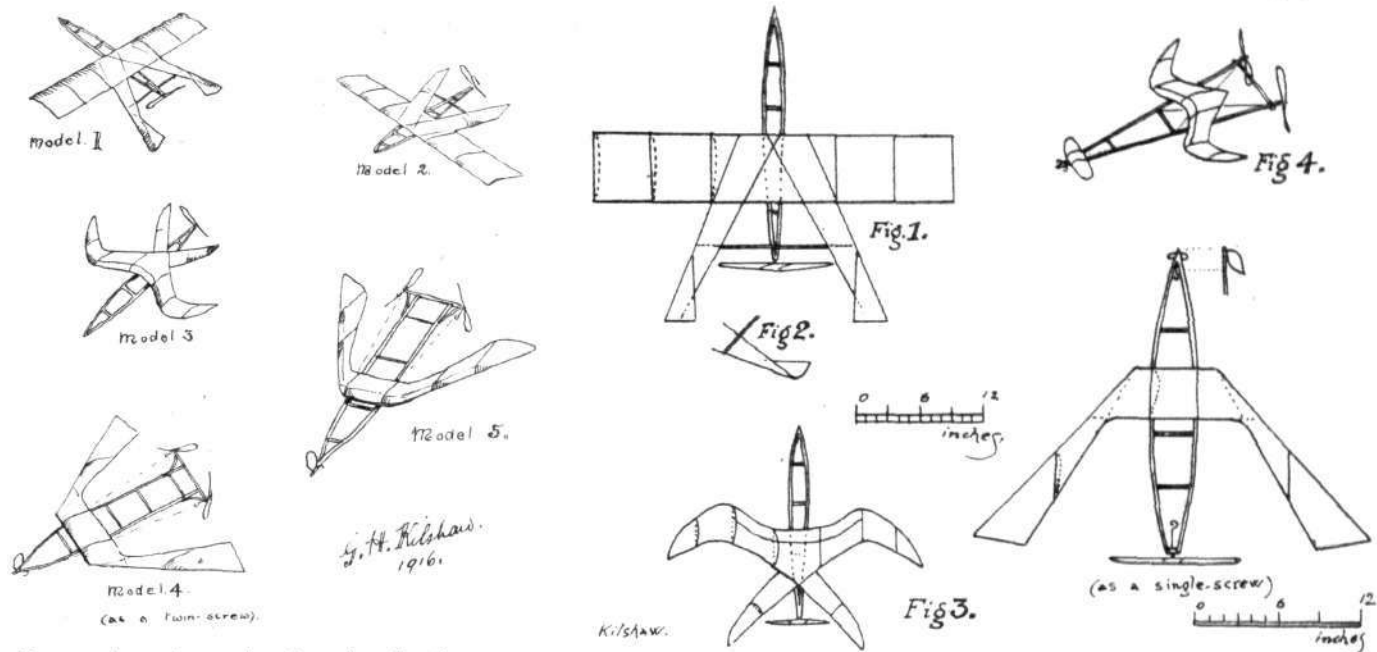
By G. H. KILSHAW, Liverpool Aero Research Club.

BEFORE starting a description of the various designs of divided tail models experimented with, it may be mentioned that the first of these was suggested after a series of interesting stability experiments with paper gliders, the notes being published in "FLIGHT," Nos. 210 and 211, January, 1913. It appeared that this design was capable of adaption to a military type machine,

canard type, as shown in Fig. 4. It proved an exceedingly inefficient flyer, as demonstrated by amount of the power required to make her fly.

Keeping this in mind, and reverting back to the previous models, 1 and 2, it was at last decided to do away with the overhanging portions of the main planes, and to increase the tail plane surfaces sufficiently to make the loading of the machine comparatively light.

Thus was evolved Model 4, shown to scale in Fig. 5, and the



Perspective views showing the development of Mr. Kilshaw's experiments.

some of the chief points likely to be of advantage being:—1. Clear view ahead, enabling free forward gun fire. 2. Increased stability. 3. Employment of a short fuselage. 4. No disturbing influence from propeller draught on the tail.

The first machine (1913) is shown in scale at Fig. 1; it had a span of 34 ins. and a total length (front of plane to rear of tail) of 17 ins., and a carved propeller 11 ins. diam. and 20 ins. pitch. A clear idea of the reversed camber employed at the tail ends is shown in sketch Fig. 2. In Model 2 these were discarded owing to the reaction bringing the main weight more forward than was thought advisable, although the stability shown was very good, especially while banking.

In Model 2, the length of flight was better, showing greater efficiency, there being no apparent difference in the stability, the only alteration being the omission of the shaded tail portions in Fig. 1.

A 5 ft. 8 ins. span scale model built to Model 2 design is shown, being exhibited in the Holt Secondary School, Liverpool, 1913, and the Y.M.C.A. Hall, Mount Pleasant, Liverpool, 1914. There was noticed, however, in the previous two machines mentioned, a certain amount of sluggishness, and although Model 2 showed improvement in this respect, it was decided to pursue this question further.

The most likely cause of this was thought to be due to the close proximity of the main planes in relation to the tail, and with this in mind Model 3 was designed and built, and is shown to scale in Fig. 3.

In order to give as much clearance between the main and tail surfaces as possible, the main planes were swept forward from the centre, and in order to counteract any tendency to spin were retreated near the tips, with a negative angle of incidence.

Results with either single or twin propellers were not very encouraging, the directional stability being very poor, with increased sluggishness.

In order to properly test this, the tail surfaces were detached, and fitted with a forward elevator, the model was flown as a twin

Plans, to scale, of Mr. Kilshaw's models.

results were immediately satisfactory, and a decided improvement on the previous machines. Fitted as a twin-propellered model she showed up very well, with good stability and excellent climbing abilities, besides proving a very good wind fighter.

The only thing deemed to need improvement was her rather rakish appearance, which was more pronounced when in the



An exhibition scale model.

air. In fact this earned her the rather misplaced name, "The Angry Wasp." She seemed, however, more to suggest a dragon-fly. Another thing introduced into this machine was a small forward vertical surface, which certainly improved the model's flying. To improve her appearance no great alterations had to be made, and Model 5 came into being. The main features of Model 4 were kept in view, and were in fact identical except for a rounding-off of the supporting surfaces. As experiments for a design of machine suited for fighting (offensive purposes) these tests ended here, but I see no reason why an efficient tractor could not be made incorporating this type.

[The above contribution has been awarded a "FLIGHT" Certificate of Merit. It will be recalled that Mr. Kilshaw was awarded the first of these certificates for his work on paper gliders referred to above.—ED.]

Edward Busk Memorial Lecture.

It is announced by the Aeronautical Society that the first Edward Busk Memorial lecture will be read by Mr. F. W. Lancaster, but the date is not yet fixed.

A Prophecy.

Writing in the *Daily Express* on "To New York by Air in Fifteen Hours," Mr. Claude Grahame-White gives the following pen-picture of the future of aviation:—

"Twenty years hence the air will be peopled by craft large and small, flying high and low; swift passenger machines and slower goods-carrying craft; grim grey war machines, and aero-mails; with thousands of privately-owned craft that will be driven either for business or pleasure.

"Both by day and night along the air-ways will sound the drone of high-speed craft. During the daytime, glancing below, pilots will be guided on their course by gigantic land signs; and in the evening, as soon as darkness falls, there will be flashes of light from signal towers—each route and each alighting ground being distinguished by a difference in the frequency and colour of the beams thrown skyward.

"The constructor of aeroplanes, in the meantime, labours to remove their limitations. Yesterday he was spoken of as a 'crank'—an amiable but futile enthusiast. But to-day, remembering the vital part that has been played by aircraft in the war, he is regarded with respect. And to-morrow, when he has perfected a metal-built craft that will vary its speed by an alteration of wing-surface, and is fitted with duplicate engines developing thousands of horsepower, he will proceed to revolutionise the traffic of the world."

A Brave French Patriot.

THE demonstration which is being organised in France in honour of Camille Eugene Jacquet should arouse considerable interest in Great Britain, as it was this French patriot who was the means of assisting Capt. Mapplebeck to escape after he had been forced to land in the neighbourhood of Lille. According to a proclamation published by the German Governor at Lille, Jacquet, with three others, was shot on September 22nd "for having hidden the English aviator who came down at Wattignies on March 11th last; for having lodged him, and for having made his passage through France easy, so that he was able to rejoin the enemy's lines; for having kept and helped members of the enemy's armies, and who after their stay in Lille or suburbs, got them away into France."

His name has already been honoured in France by the following Order of the Day published by General Joffre on January 15th last:—

"Camille Jacquet, tradesman at Lille, was sentenced to death by the Germans, and executed at Lille fortress, September 22nd, 1915, for having concealed, kept, and cared for French soldiers, and helped them to escape. He died like a hero, refused to be bound or blindfolded, and fell with cries of 'Vive la France!' 'Vive la République!' on his lips."

It may be recalled that on March 11th last year, Capt. Mapplebeck, Capt. Barton and Lieut. Warrant, each on a separate machine, set out to bomb the German wireless stations at Lille. They were heavily fired upon and while Capt. Barton, though severely wounded, was able to regain the British lines, Captain Mapplebeck and Lieut. Warrant were forced down in the enemy's country. Lieut. Warrant was so severely wounded that he died a few days later. The Germans found Capt. Mapplebeck's machine but no sign of the pilot; they thereupon posted a notice stating that two English aviators were in hiding and offered a reward for any information, stating at the same time that anyone sheltering them or assisting them to escape would be sentenced to death. As a matter of fact Capt. Mapplebeck was hidden by Jacquet and after a fortnight escaped to England.

M. Blériot and Zeppelin Fighters.

INTERVIEWED by the Paris correspondent of the *Times* the other day M. Blériot gave some interesting ideas as to the types of aeroplanes which would probably be most useful for fighting Zeppelins. He favours a light and fast single-seater capable of rising with great speed and "he is not prejudiced in favour of his own style of machine, but believes that the biplane may, perhaps, offer superiority, particularly for landing. They should be armed with machine-guns, or bombs, which could be released when above an airship, and should carry searchlights. This equipment would not weigh as much as a passenger. To secure lightness and lifting power, he suggests that the pilot should be unaccompanied. He considers that not enough is done to make good pilots, who must be superior to German pilots. Both England and France are possessed of the necessary material. What was required was to accentuate the training so as to produce more men of the type of Pégoud and Garros. Young men are to be preferred for this work, as at 25 a man had a stouter heart than at 40.

"M. Blériot finds no particular fault with the scheme for darkening towns, but he says it is easy for an airman to find his

position by the rivers, which are clearly visible at a height. He does not believe in building Zeppelins, which, he says, are cumbersome and vulnerable, and, on this latter account, are capable of operating only at night. Nor does he approve of the double-motored aeroplanes, holding them to be dangerous."

The Latest Zeppelins.

IF all the details regarding the latest Zeppelins, as told by the Swiss paper *Bund*, are true, a lively time in the air can be looked forward to. According to Mr. A. Beaumont, writing in the *Daily Telegraph*, some of these items are as follows:—

"The Germans now claim to finish one Zeppelin every week, which is given its trial on the lake opposite Friedrichshafen. The number of operatives, which was 3,000, has been considerably increased. Trial flights are accomplished every day, and sometimes two new airships may be seen cruising together. The great motor factory at Maibach, adjoining the Zeppelin works, is producing new motors, which are tested for twenty-four hours and forty-eight hours without interruption, and which make a noise heard far out on the lake. The forms and dimensions of the Zeppelins have been further modified from the primitive shape. They are now much more elongated, and resemble the outlines of fishes. The two gondolas, which seem to be hanging lower, no longer communicate with each other, unless invisibly by a corridor inside the balloon. Each gondola is covered with armour, and carries six machine-guns and one or two quick-firing guns, with a special device also for throwing aerial torpedoes. The platform for the machine-guns, which used to be visible in the earlier models, is no longer seen.

"The point of the new Zeppelin has a metallic polish or brilliancy for one-fifth of the entire length of the airship, Count Zeppelin having acquired the Schoop patent for metallisation, and employing it for the envelope. The rudder gear is smaller and more compact, and the motors have been reinforced, but make a louder noise. The trial flights on the lake are interesting, and it is noticeable that the Zeppelins have improved their speed and power of manoeuvring rapidly in all directions, but the latest invention is the creation of artificial clouds round the airship in flight, by means of gases. At a given moment great volumes of vapour and fumes issue from the airship, enveloping it entirely, and if there is any mist or cloud in the sky the airship becomes identified with it, and is absolutely invisible from the ground."

If you require anything pertaining to aviation, study "FLIGHT'S" Index to Advertisers and "FLIGHT'S" Buyers' Guide and Trade Directory, which appear alternately in these pages—one each week.

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